

Anticipatory Guidance in the Well Child Visit

Addressing Parent Concerns for Infants and
Toddlers

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Goals / Objectives

- Learn common / important questions asked during well child visits
- Learn evidence-based (and guideline-based) answers
- Be able to counsel patients when asked questions
- Teach someone else what you have learned

The goal is a fast paced, high yield overview of pediatric anticipatory guidance topics, with active participation to engage learners

* No disclosures, other than I have young kids!

Outline

- Question posed
- Brief time to contemplate answers (<10 seconds)
- Answer presented
- Quick debrief / questions
- Next question...and repeat
- 5 minute debrief / question session at the end

Let's get started!

When can we get a forward facing car seat?





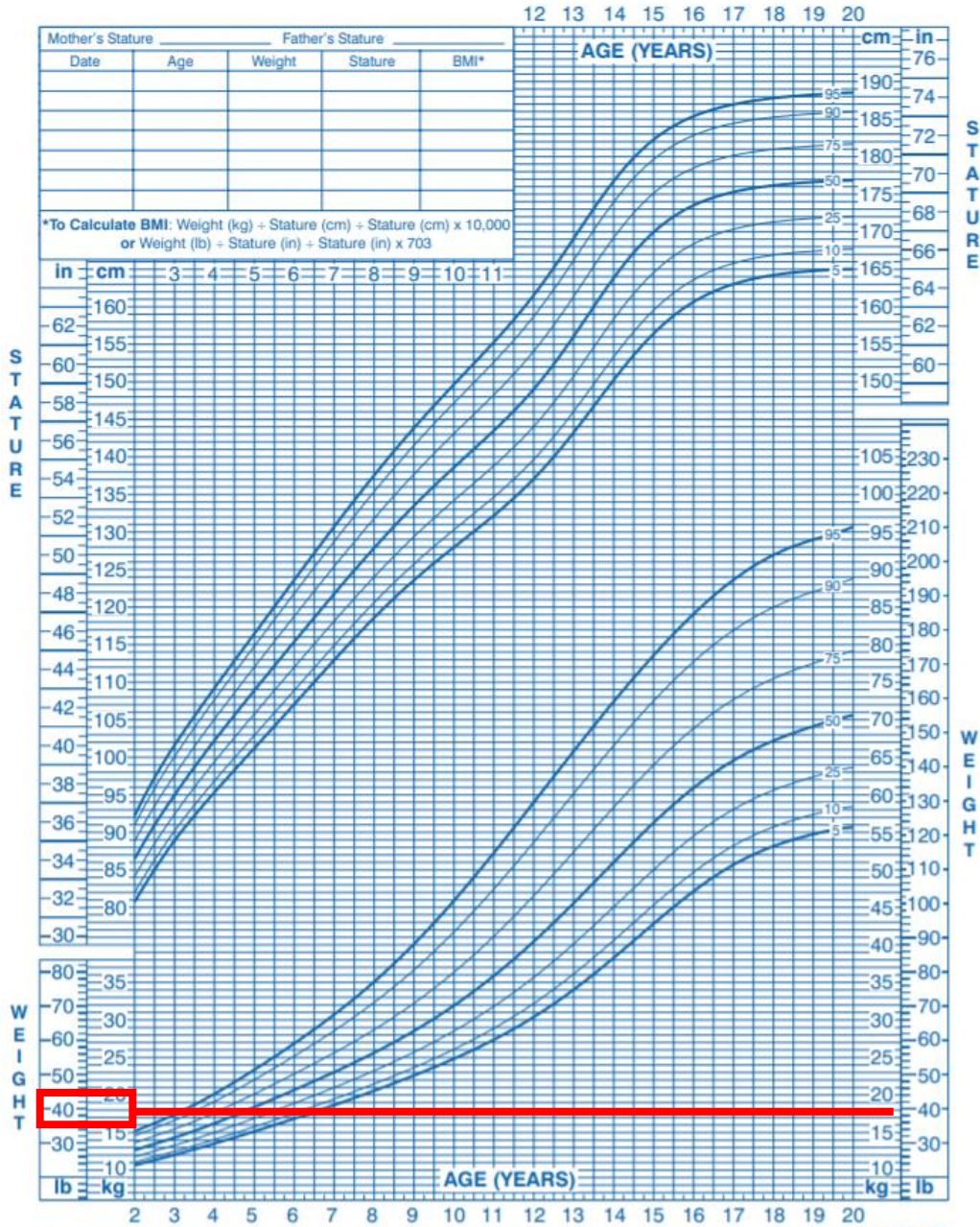
2018 Updated Guideline:

“Children should remain in a rear-facing car safety seat as long as possible, until they reach the highest weight or height allowed by their seat.”



2 to 20 years: Boys
Stature-for-age and Weight-for-age percentiles

NAME _____ RECORD # _____

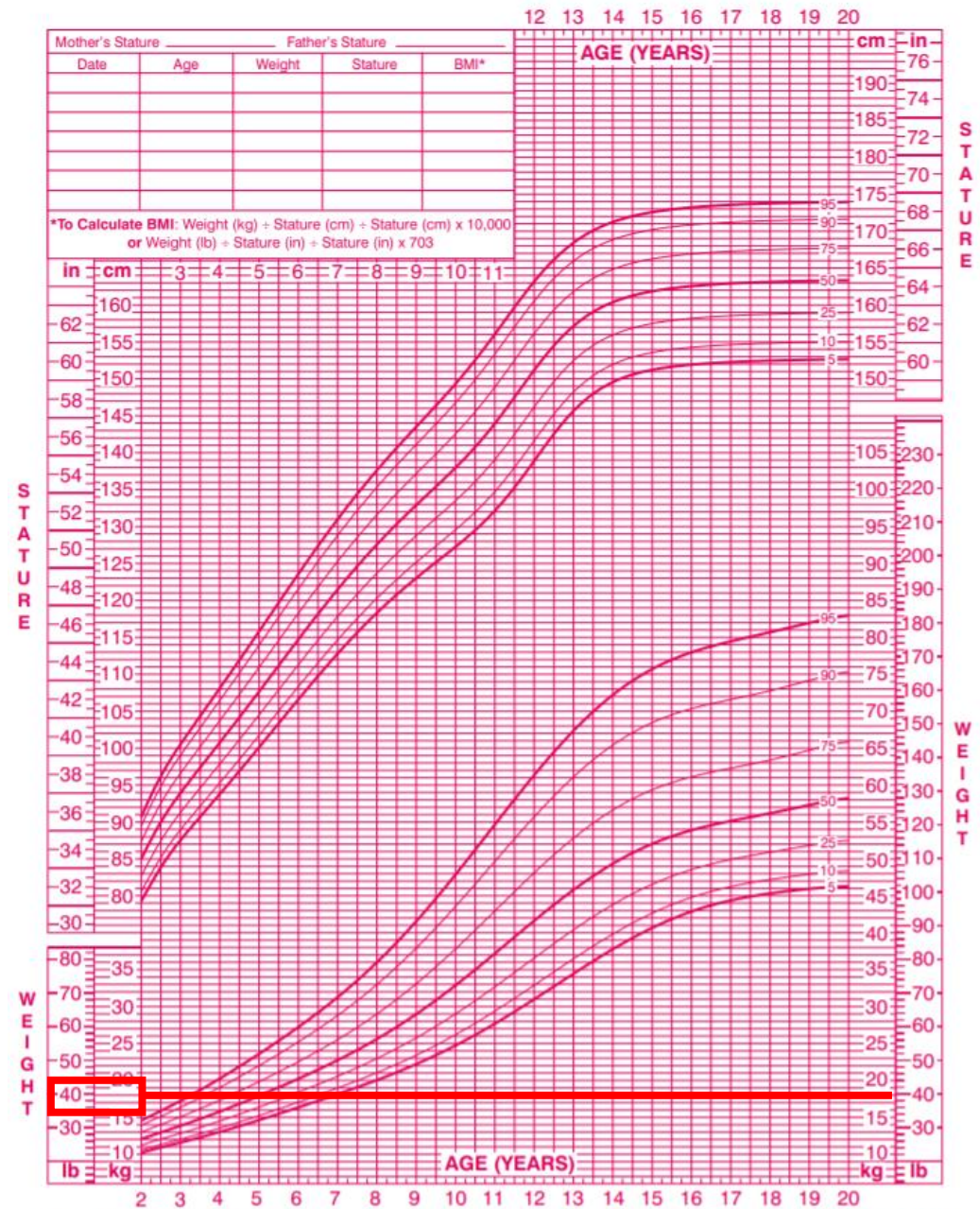


Published May 30, 2000 (modified 11/21/00)
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>



2 to 20 years: Girls
Stature-for-age and Weight-for-age percentiles

NAME _____ RECORD # _____



Published May 30, 2000 (modified 11/21/00)
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>



Toddler Mortality (CDC, 2016)



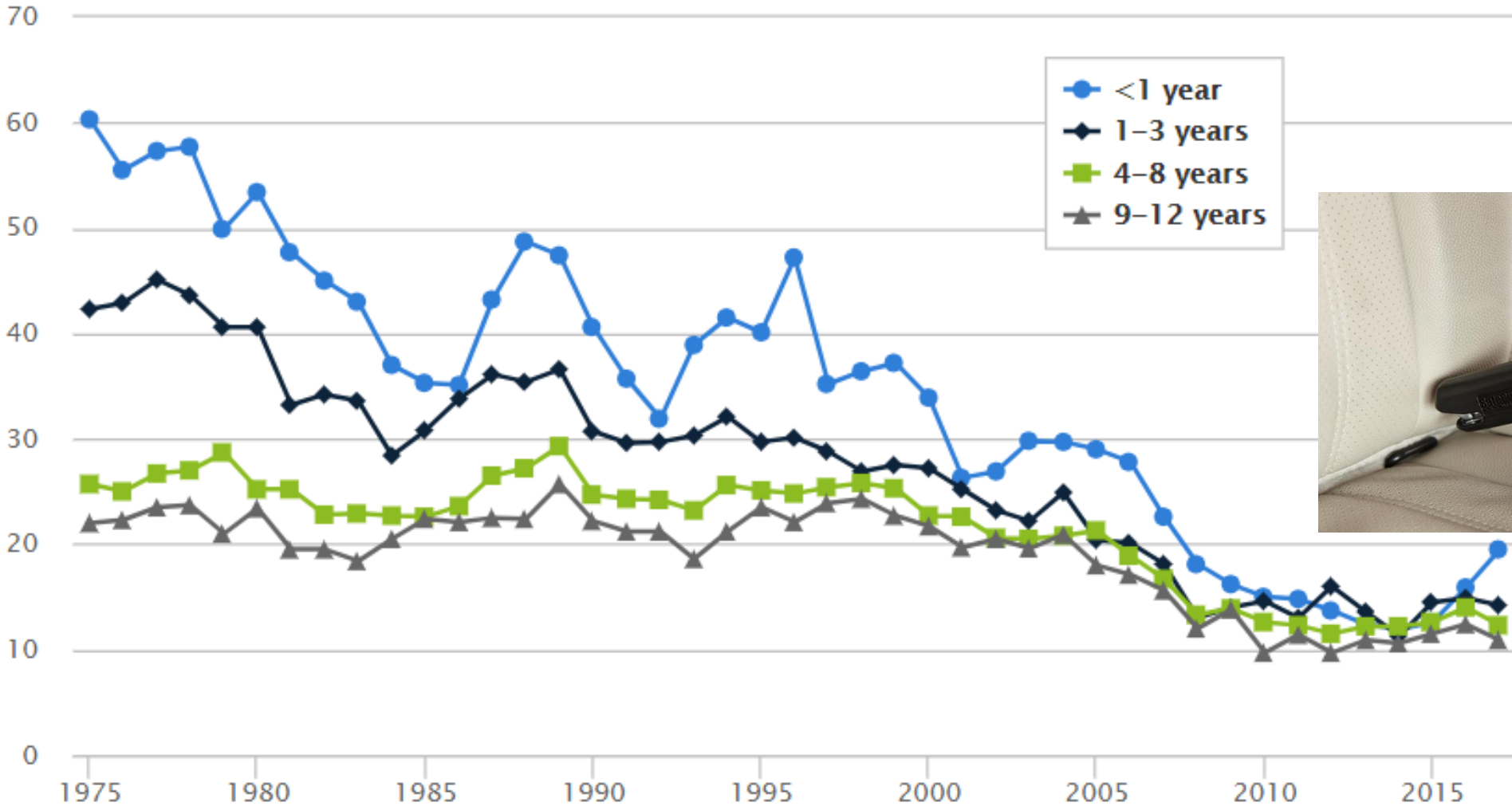
3,816 toddler deaths in 2021, causes:

1. **Accidents** → 355 kids <5yo killed in car crashes in 2021
~49,000 injured
2. Congenital malformations
3. Assault (Homicide)

2021.....	355 deaths
2017.....	399 deaths
2010.....	403 deaths
2005.....	596 deaths
2000.....	710 deaths
1997.....	790 deaths
1994.....	940 deaths



Passenger vehicle child occupant deaths per million children by age, 1975-2017



400-500
kids in the
US every
year!

1968



First Car Seat
Manufactured



First child
restraint law



All states
have laws



LATCH
introduced



40% of 18 month olds in US are NOT rear-facing (2017)

The Evidence...

(Any) car seat is better than seat belts, which is better than nothing

* ~25% 1-3yo deaths unrestrained

78% lower chance of serious injury (OR 0.22) if in a car seat instead of a seat belt (1-4 years old)

28% less deaths in car seat vs seatbelt (2-6 yo)

Incidence low...only 0.47% have a serious injury. 1.72% with seatbelt, 0.39% if in forward facing car seat

Accid Anal Prev. 2004 Jul;36(4):585-9.

An evaluation of the effectiveness of forward facing child restraint systems.

Arbogast KR¹, Durbin DR, Cornejo RA, Kallan MJ, Winston FK

Author information

Abstract

The objective of this study was to determine the effectiveness of forward facing child restraint systems (FFCRS) in preventing serious injury and hospitalization to children 12-47 months of age as compared with similar age children in seat belts. Data were obtained from a cross-sectional study of children aged 12-47 months in crashes of insured vehicles in 15 states, with data collected via insurance claims records and a telephone survey. Effectiveness estimates were limited to those children between 12 and 47 months of age seated in the back row(s) of vehicles, restrained in FFCRS, regardless of misuse, or seat belts of all types and usage. Completed survey information was obtained on 1207 children, representing 12632 children in 11619 crashes between 1 December 1998 and 31 May 2002. Serious injuries occurred to 0.47% of all 12-47-month olds studied, including 1.72% of those in seat belts and 0.39% of those in child restraint systems. The risk of serious injury was 78% lower for children in FFCRS than in seat belts (odds ratio (OR) = 0.22, 95% confidence interval (CI) = 0.11-0.45, P = 0.001). The risk of hospitalization was 79% lower for children in FFCRS than in seat belts (OR = 0.21, 95% CI = 0.09-0.50, P = 0.001). There was no difference between the restraint types in preventing minor injuries. As compared with seat belts, CRS are very highly effective in preventing serious injuries and hospitalization, respectively. This effectiveness estimate is substantially higher than older estimates, demonstrating the benefits of current CRS designs. These results provide those educating parents and caregivers population-based data on the importance of child restraint use.

PMID: 15094411 DOI: 10.1016/S0001-4575(03)00065-4

Arch Pediatr Adolesc Med. 2006 Jun;160(6):617-21.

Effectiveness of child safety seats vs seat belts in reducing risk for death in children in passenger vehicle crashes.

Elliott MB¹, Kallan MJ, Durbin DR, Winston FK

Author information

Erratum in Arch Pediatr Adolesc Med. 2006 Sep;160(9):952.

Abstract

OBJECTIVE: To provide an estimate of benefit, if any, of child restraint systems over seat belts alone for children aged from 2 through 6 years.

DESIGN: Cohort study.

SETTING: A sample of children in US passenger vehicle crashes was obtained from the National Highway Transportation Safety Administration by combining cases involving a fatality from the US Department of Transportation Fatality Analysis Reporting System with a probability sample of cases without a fatality from the National Automotive Sampling System.

PARTICIPANTS: Children in tow-away [corrected] crashes occurring between 1998 and 2003.

MAIN EXPOSURE: Use of child restraint systems (rear-facing and forward-facing car seats, and shield and belt-positioning booster seats) vs seat belts. Potentially confounding variables included seating position, vehicle type, model year, driver and passenger ages, and driver survival status.

MAIN OUTCOMES MEASURE: Death of child passengers from injuries incurred during the crash.

RESULTS: Compared with seat belts, child restraints, when not seriously misused (eg, unattached restraint, child restraint system harness not used, 2 children restrained with 1 seat belt) were associated with a 28% reduction in risk for death (relative risk, 0.72; 95% confidence interval, 0.54-0.97) in children aged 2 through 6 years after adjusting for seating position, vehicle type, model year, driver and passenger ages, and driver survival status. When including cases of serious misuse, the effectiveness estimate was slightly lower (21%) (relative risk, 0.79; 95% confidence interval, 0.59-1.05).

CONCLUSION: Based on these findings as well as previous epidemiological and biomechanical evidence for child restraint system effectiveness in reducing nonfatal injury risk, efforts should continue to promote use of child restraint systems through improved laws and with education and disbursement programs.

PMID: 16754824 DOI: 10.1093/archpedi/160.6.617



RETRACTED ARTICLE

See: [Retraction Notice](#)

[Inj Prev](#). 2007 Dec;13(6):398-402.

Car safety seats for children: rear facing for best protection.

[Henry B¹](#), [Sherwood CP](#), [Crandall JR](#), [Kent RW](#), [Vaca FE](#), [Arbogast KB](#), [Bull MJ](#).

Author information

Retraction in

Retraction: [Car safety seats for children: rear facing for best protection](#). [Inj Prev. 2018]

Expression of concern in

Expression of concern: [car safety seats for children: rear facing for best protection](#). [Inj Prev. 2017]

Abstract

OBJECTIVE: To compare the injury risk between rear-facing (RFCS) and forward-facing (FFCS) car seats for children less than 2 years of age in the USA.

METHODS: Data were extracted from a US National Highway Traffic Safety Administration vehicle crash database for the years 1988-2003. Children 0-23 months of age restrained in an RFCS or FFCS when riding in passenger cars, sport utility vehicles, or light trucks were included in the study. Logistic regression models and restraint effectiveness calculations were used to compare the risk of injury between children restrained in RFCSs and FFCSs.

RESULTS: Children in FFCSs were significantly more likely to be seriously injured than children restrained in RFCSs in all crash types (OR=1.76, 95% CI 1.40 to 2.20). When considering frontal crashes alone, children in FFCSs were more likely to be seriously injured (OR=1.23), although this finding was not statistically significant (95% CI 0.95 to 1.59). In side crashes, however, children in FFCSs were much more likely to be injured (OR=5.53, 95% CI 3.74 to 8.18). When 1 year olds were analyzed separately, these children were also more likely to be seriously injured when restrained in FFCSs (OR=5.32, 95% CI 3.43 to 8.24). Effectiveness estimates for RFCSs (93%) were found to be 15% higher than those for FFCSs (78%).

CONCLUSIONS: RFCSs are more effective than FFCSs in protecting restrained children aged 0-23 months. The same findings apply when 1 year olds are analyzed separately. Use of an RFCS, in accordance with restraint recommendations for child size and weight, is an excellent choice for optimum protection up to a child's second birthday.

Rear-facing versus forward-facing child restraints: an updated assessment.

McMurry TL¹, Arbogast KB², Sherwood CP³, Vaca F⁴, Bull M⁵, Crandall JR⁶, Kent RW⁶.

Author information

Abstract

OBJECTIVES: The National Highway Traffic Safety Administration and the American Academy of Pediatrics recommend children be placed in rear-facing child restraint systems (RFCRS) until at least age 2. These recommendations are based on laboratory biomechanical tests and field data analyses. Due to concerns raised by an independent researcher, we re-evaluated the field evidence in favour of RFCRS using the National Automotive Sampling System Crashworthiness Data System (NASS-CDS) database.

METHODS: Children aged 0 or 1 year old (0-23 months) riding in either rear-facing or forward-facing child restraint systems (FFCRS) were selected from the NASS-CDS database, and injury rates were compared by seat orientation using survey-weighted χ^2 tests. In order to compare with previous work, we analysed NASS-CDS years 1988-2003, and then updated the analyses to include all available data using NASS-CDS years 1988-2015.

RESULTS: Years 1988-2015 of NASS-CDS contained 1107 children aged 0 or 1 year old meeting inclusion criteria, with 47 of these children sustaining injuries with Injury Severity Score of at least 9. Both 0-year-old and 1-year-old children in RFCRS had lower rates of injury than children in FFCRS, but the available sample size was too small for reasonable statistical power or to allow meaningful regression controlling for covariates.

~7 moderate to severe injuries over ~30 years

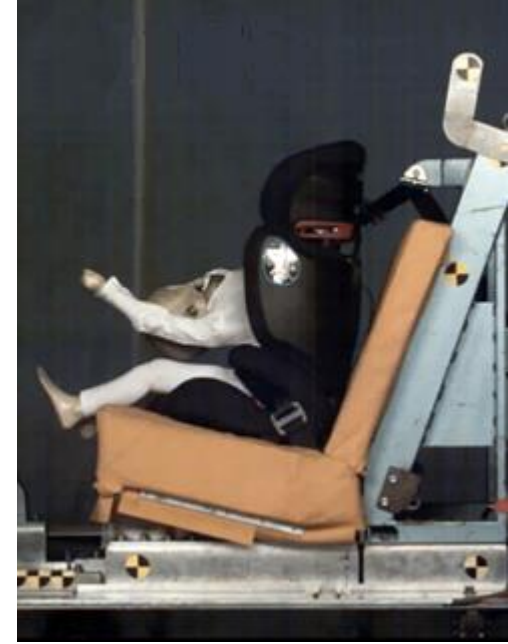
CONCLUSIONS: Non-US field data and laboratory tests support the recommendation that children be kept in RFCRS for as long as possible, but the US NASS-CDS field data are too limited to serve as a strong statistical basis for these recommendations.

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KEYWORDS: behavior; child; child survival; epidemiology; motor vehicle occupant

PMID: 29175832 DOI: [10.1136/injuryprev-2017-042512](https://doi.org/10.1136/injuryprev-2017-042512)

Most crashes in which children in child restraint systems die were of such severity that survival of the child was unlikely to survive



84% of rear-facing-only infant car seats are misused or installed incorrectly!

Know the Facts

Key details can simplify the process

5 Common Infant Car Seat Questions

1. How do I know if my car seat is installed correctly?

- ✓ Seat installed at the correct angle tightly to the vehicle. If using the seat's base for installation, pull it front and back and side to side near where it connects to the vehicle and make sure it does not move more than 1 inch.
- ✓ 5 point harness buckled and tightened properly. Follow these three steps:



2. What are the most important things to look for in an infant car seat?

PRO TIP: Always consult your car seat and vehicle owner's manuals before installing an infant car seat.

The most important consideration when choosing an infant car seat is whether or not you can use it easily and correctly every time. The car seat should:

- ✓ Fit your vehicle
- ✓ Fit your child
- ✓ Be one that you can use correctly every time

3. I've seen weight limits for infant car seats vary from 20 to 40 lbs. Is a higher weight limit better?



NOT NECESSARILY. Did you know that most babies outgrow their seat in height before weight? Most infant seats have a height limit between 25" and 32". For reference, the average two-year-old boy will weigh 28 lbs and be 34.5" high.*

4. LATCH vs. seatbelt - which is safer?

As long as the car seat is installed correctly, using LATCH **OR** a seat belt is equally safe. Learn how to install your seat correctly using whichever method works best for you, your car, and your car seat.

ATTENTION! Do not use both LATCH and seatbelt together.

5. What is an infant insert and when should I stop using it?

PRO TIP: You only need one infant car seat, but consider buying a couple extra car seat bases so you can easily transition from one car to another.

The infant insert is the smaller contoured seat pad that fits inside your infant car seat. These pads are engineered to position smaller baby at the correct seat angle, as well as ensure that the harness fits tightly. Once your child exceeds the maximum weight limit of the infant insert, you should remove it from the seat.

DID YOU KNOW When installed correctly into a vehicle, child safety seats reduce fatal injury to infants by 71%!

Sources:
1. <http://www.nhtsa.gov/746917142.pdf>
2. <http://www.cdc.gov/govinfo/infants/infants.html>



Install Car Seats Correctly!



SAFE KIDS WORLDWIDE

Tethers Make a Difference

What's a tether?



It's the **strap with a hook** hanging on the back, at the top of your child's car seat.

When attached and tightened to one of the vehicle's tether anchors, a tether helps keep a forward-facing car seat from tipping forward.

Car Crash Using a Tether



Is it necessary?

Yes! A forward-facing car seat secured only at the bottom may tip dangerously forward in a crash, which can result in the child's head hitting the back of the front seat, other occupants or even the console, causing serious harm. **Using the tether could be the difference between a brain injury or no injury at all.**

Car Crash Not Using a Tether



How do you use a tether?

Find the tether anchor then attach the hook on the tether strap to it and tighten. Depending on the type of vehicle you have, the tether anchor will likely be found one of three places.

Most Common Tether Anchor Locations

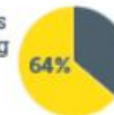


Check your vehicle owner's manual to find your tether anchors. Look for this symbol.



Did you know?

In our study, 64% of parents were **not** using the tether on a forward-facing seat.



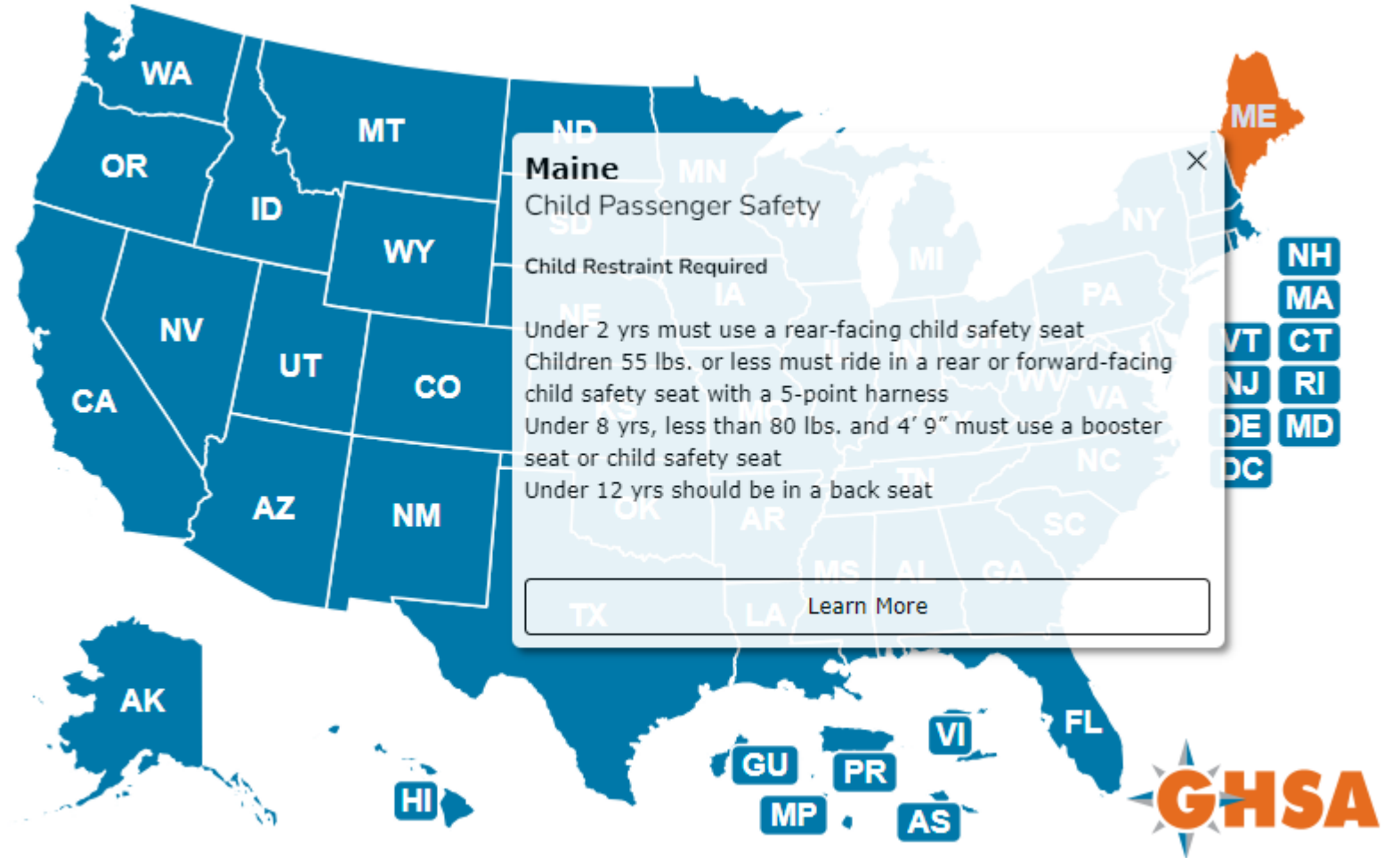
Now you know – Look for the tether anchor symbol. Hook and tighten the tether on it. Safe travels!



Child Safety Seat Laws

Rear facing until 2:

- California
- Connecticut
- Delaware
- Hawaii
- Maine
- Maryland
- Illinois
- Kansas (3yo)
- Louisiana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New York
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- Virginia
- Washington
- DC



Can my baby sleep in a rock and play?





Home » Recalls »

Fisher-Price Recalls Rock 'n Play Sleepers Due to Reports of Deaths

En Español

3.6K



Recalled Fisher-Price Rock 'n Play sleeper

Name of product:
All Models of Rock 'n Play Sleeper

Hazard:
Infant fatalities have occurred in Rock 'n Play Sleepers, after the infants rolled from their back to their stomach or side while unrestrained, or under other circumstances.

Remedy:
Refund

Recall date:
April 12, 2019

Units:
About 4.7 million products

~32 deaths over
last 8 years



Safe Sleep for Your Baby

Each year in the United States, thousands of babies die suddenly and unexpectedly. Some of these deaths result from **Sudden Infant Death Syndrome (SIDS) and other sleep-related causes of infant death**, such as suffocation.



Breastfeeding
reduces the
risk of SIDS

Babies who are breastfed or are fed expressed breastmilk are at lower risk for SIDS compared with babies who were never fed breastmilk. According to research, the longer you exclusively breastfeed your baby (meaning not supplementing with formula), the lower his or her risk of SIDS.

▶ If you bring baby into your bed for feeding, remove all soft items and bedding from the area. When finished, put baby back in a separate sleep area made for infants.*

▶ If you fall asleep while feeding baby in your bed, place him or her back in the separate sleep area as soon as you wake up.



Since the 1990s, when the U.S. back-sleeping recommendations were first released and public awareness efforts began, the overall U.S. SIDS rate has dropped.

But, as SIDS rates have declined, deaths from other sleep-related causes, such as suffocation, have increased, and certain groups remain at higher risk for SIDS than others.

For example, African American and American Indian/Alaska Native babies are at higher risk for SIDS than white, Hispanic, or Asian/Pacific Islander babies.

Safe Sleep Environment

To **reduce the risk** of SIDS and other sleep-related causes of infant death:



▶ Always place baby on his or her back to sleep, for naps and at night.



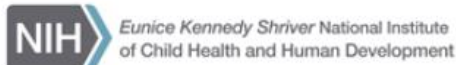
▶ Share your room with baby. Keep baby close to your bed, on a separate surface designed for infants.



▶ Use a **firm and flat sleep surface**, such as a mattress in a safety-approved crib*, covered by a fitted sheet with no other bedding or soft items in the sleep area.



* A crib, bassinet, portable crib, or play yard that follows the safety standards of the Consumer Product Safety Commission (CPSC) is recommended. For information on crib safety, contact the CPSC at 1-800-638-2772 or <http://www.cpsc.gov>.



Learn more about SIDS and safe infant sleep:
<http://safetosleep.nichd.nih.gov>

Infant Mortality (CDC, 2017)

>22,000 infant deaths in 2017 (5.8 of 1000 live births), causes:

1. Birth defects
2. Preterm birth / low birth weight
3. Maternal pregnancy complications
4. Sudden infant death syndrome
5. Injuries

↓
~3600 SUID deaths per year

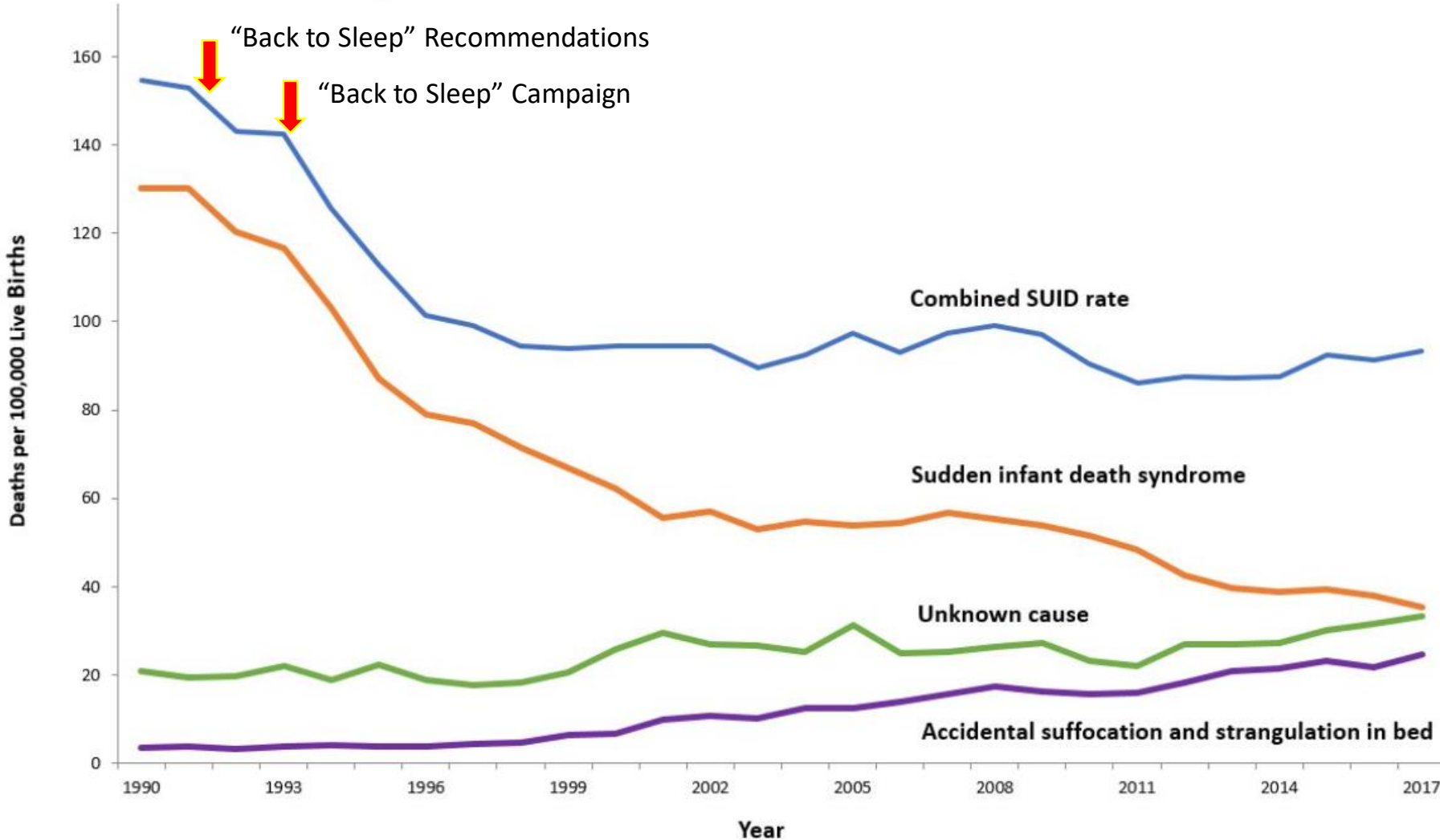


The Evidence

Trends in Sudden Unexpected Infant Death by Cause, 1990-2017

~5700 deaths →

~3600 deaths →



SOURCE: CDC/NCHS, National Vital Statistics System, Compressed Mortality File

This graph shows the trends in sudden unexpected infant death (SUID) rates in the United States from 1990 through 2017.

The Evidence

~3% of sleep deaths are in “sitting devices”
~6 hours a day spent in these devices, and often used for sleeping.



[J Pediatr](#). 2015 Jul;167(1):183-7. doi: 10.1016/j.jpeds.2015.03.044. Epub 2015 Apr 27.

Hazards Associated with Sitting and Carrying Devices for Children Two Years and Younger.

Batra Ek¹, Midgett JD², Moon RY³.

[Author information](#)

Abstract

OBJECTIVE: To analyze reported mechanisms of injury and characterize risk factors for infants and young children ≤ 2 years of age who died in sitting and carrying devices.

STUDY DESIGN: A retrospective review of deaths involving sitting and carrying devices (car seats, bouncers, swings, strollers, and slings) reported to the US Consumer Product Safety Commission between 2004 and 2008.

RESULTS: Of the 47 deaths analyzed, 31 occurred in car seats, 5 in slings, 4 each in swings and bouncers, and 3 in strollers. The reported elapsed time between the last time a child was seen by a caregiver and found deceased varied greatly, with a mean of 26 minutes in slings; 32 minutes in strollers; 140 minutes in car seats; 150 minutes in bouncers; and 300 minutes in swings. The cause of death was asphyxiation in all cases except one. Fifty-two percent of deaths in car seats were attributed to strangulation from straps; the others were attributed to positional asphyxia.

CONCLUSION: Infants and children 2 years of age and younger should be properly restrained and not be left unsupervised in sitting and carrying devices. Car seats should not be used as sleeping areas outside of the vehicle, and children should never be in a car seat with unbuckled or partially buckled straps. Infants in slings should have their faces visible and above the edge of the sling, should not have their faces covered by fabric, and their chins should not be compressed into their chests.

[Pediatrics](#). 2019 Jul;144(1). pii: e20182576. doi: 10.1542/peds.2018-2576. Epub 2019 May 20.

Infant Deaths in Sitting Devices.

Liaw P¹, Moon RY², Han A³, Colvin JD⁴.

[Author information](#)

Abstract

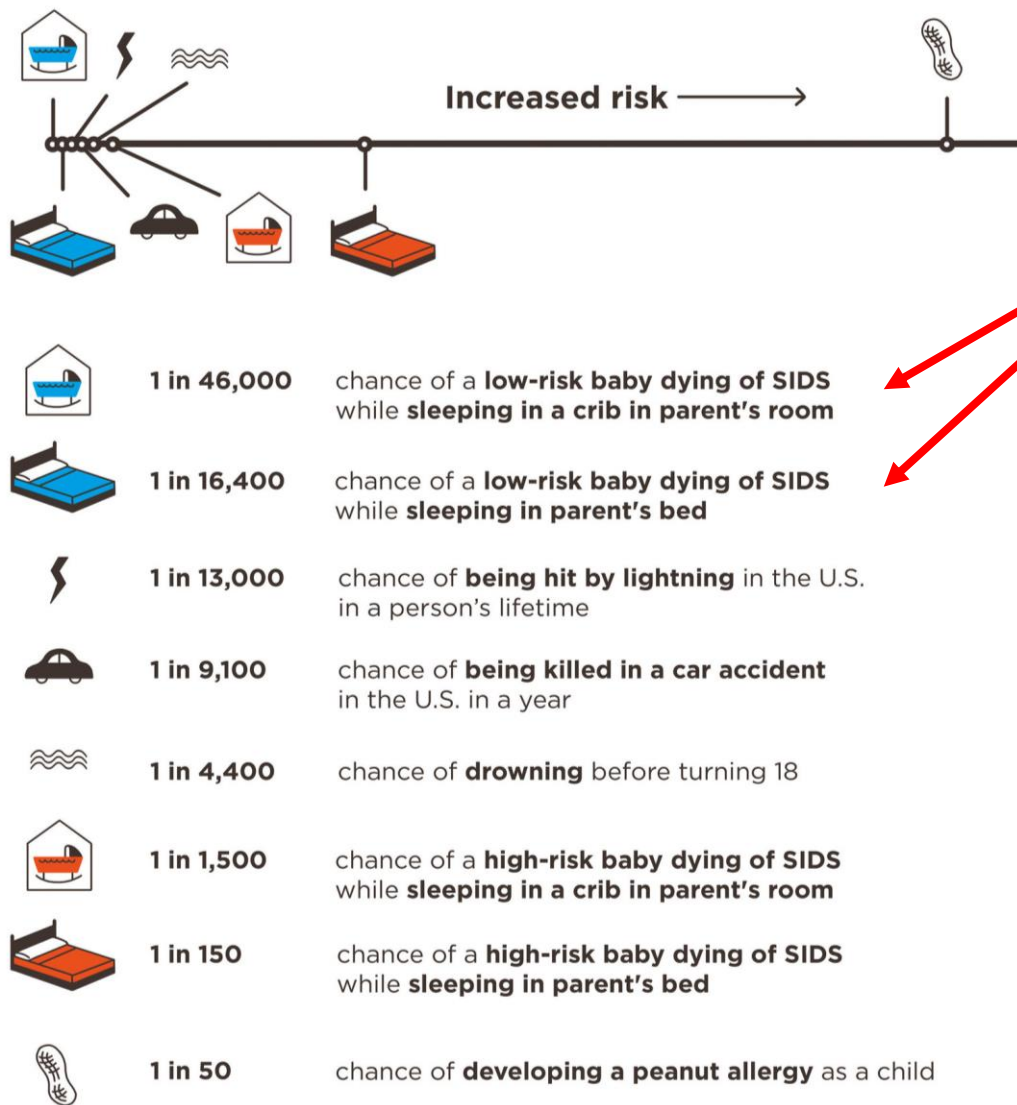
BACKGROUND AND OBJECTIVES: Annually, several hundred infant deaths occur in sitting devices (eg, car safety seats [CSSs] and strollers). Although American Academy of Pediatrics guidelines discourage routine sleeping in sitting devices, little is known about factors associated with deaths in sitting devices. Our objective was to describe factors associated with sleep-related infant deaths in sitting devices.

METHODS: We analyzed 2004-2014 National Center for Fatality Review and Prevention data. The main outcome was sleep location (sitting device versus not). Setting, primary caregiver, supervisor at time of death, bed-sharing, and objects in the environment were compared by using χ^2 tests and multivariable logistic regression. Descriptive statistics of additional possible risk factors were reviewed.

RESULTS: Of 11 779 infant sleep-related deaths, 348 (3.0%) occurred in sitting devices. Of deaths in sitting devices, 62.9% were in CSSs, and in these cases, the CSS was used as directed in <10%. Among all sitting-device deaths, 81.9% had ≥ 1 risk factor, and 54.9% had ≥ 2 risk factors. More than half (51.6%) of deaths in CSSs were at the child's home. Compared with other deaths, deaths in sitting devices had higher odds of occurring under the supervision of a child care provider (adjusted odds ratio 2.8; 95% confidence interval 1.5-5.2) or baby-sitter (adjusted odds ratio 2.0; 95% confidence interval 1.3-3.2) compared with a parent.

CONCLUSIONS: There are higher odds of sleep-related infant death in sitting devices when a child care provider or baby-sitter is the primary supervisor. Using CSSs for sleep in nontraveling contexts may pose a risk to the infant.

How Risky Is It For Mom To Share A Bed With Baby?



SIDS risk is calculated for a 2-month-old, female baby of European ancestry. The low-risk baby is of average birth weight and has a 30-year-old mother who does not smoke or drink. The high-risk baby is of low birth weight and has parents who smoke and a 21-year-old mother who has more than two alcoholic drinks regularly.

Cristina Spanò for NPR./Sources for statistics: BMJ Study On Bed-Sharing (SIDS); NOAA (lightning); CDC (drowning and car accident); NIH (peanut allergy)

Bed sharing increases odds of SIDS by 3 fold

[J Pediatr. 2012 Jan;160\(1\):44-8.e2. doi: 10.1016/j.jpeds.2011.06.052. Epub 2011 Aug 24.](#)

Bed sharing and the risk of sudden infant death syndrome: can we resolve the debate?

Vennemann MM¹, Hense HW, Bajanowski T, Blair PS, Complojer C, Moon RY, Kiechl-Kohlendorfer U.

[Author information](#)

Abstract

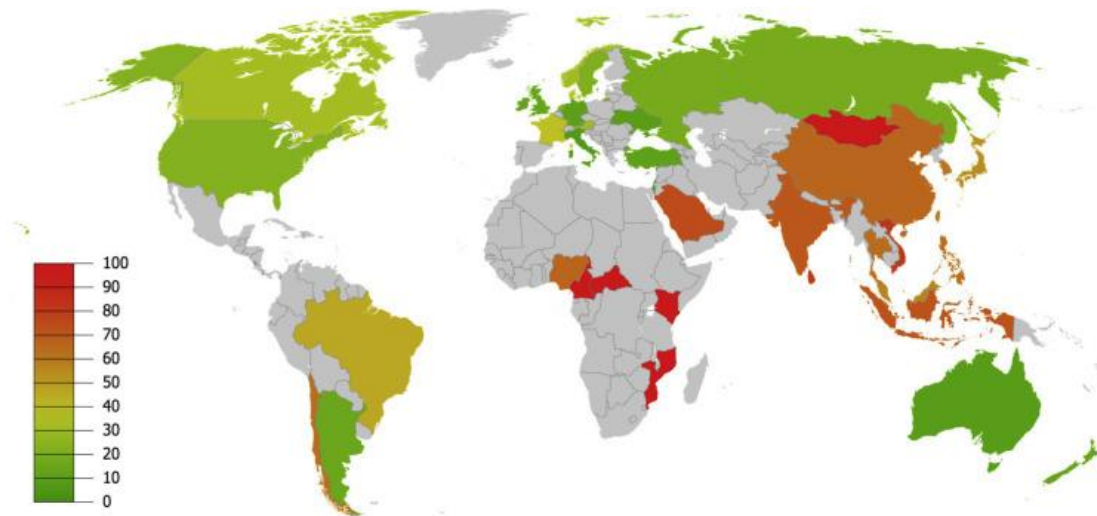
OBJECTIVE: To conduct a meta-analysis on the relationship between bed sharing and sudden infant death syndrome (SIDS) risk.

STUDY DESIGN: Data from PubMed and Medline were searched for studies published after Jan 1, 1970. The search strategy included articles with the terms "sudden infant death syndrome," "sudden unexpected death," and "cot death" with "bed sharing" or "co-sleeping." To further specify the potential risk of bed sharing and SIDS, subgroup analyses were performed.

RESULTS: Eleven studies met inclusion criteria and were included in the final meta-analysis. The combined OR for SIDS in all bed sharing versus non-bed sharing infants was 2.89 (95% CI, 1.99-4.18). The risk was highest for infants of smoking mothers (OR, 6.27; 95% CI, 3.94-9.99), and infants <12 weeks old (OR, 10.37; 95% CI, 4.44-24.21).

CONCLUSIONS: Bed sharing is a risk factor for SIDS and is especially enhanced in smoking parents and in very young infants.

~ 20 - 30% bed sharing rate in 2016
...and many don't tell their doctors!





>1000 infants died (2004-2012)
increases death 50-60 fold



When will my baby sleep through the night?





American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN®

Infants	12-16 hours
1-2 yrs	11-14 hours
3-5 yrs	10-13 hours
6-12 yrs	9-12 hours
13-18 yrs	8-10 hours



The Evidence

[Infant Behav. Dev.](#) 2016 Aug;44:169-78. doi: 10.1016/j.inbeh.2016.06.011. Epub 2016 Jul 19.

Infant sleep-wake behaviors at two weeks, three and six months.

[Figueiredo B¹](#), [Dias CC²](#), [Pinto TM³](#), [Field T⁴](#).

Author information

Abstract

Although infant sleep-wake behavior presents several developmental changes during the first six months, literature lacks on reference values and few studies have explored the role of individual change and stability on infant sleep-wake behavior during the first six months. This study aimed (1) to describe infant sleep-wake behaviors during the 24-h period, day and night, at two weeks, three, and six months, (2) and to explore developmental changes and the role of individual change and stability on infant sleep-wake behaviors from two weeks to six months. Ninety-four primiparous mothers completed measures on infant sleep-wake behaviors at two weeks, three and six months. Significant developmental changes were found on infant sleep-wake behaviors from two weeks to six months. Two-week-old infants sleep 13.3h, spend 8.7h awake, awake 6.1 times, have 0.4h of latency to sleep, and 3.2h of longest sleep period. Three-month-old infants sleep 13.0h, spend 9.2h awake, awake 5.5 times, have 0.4h of latency to sleep, and 5.2h of longest sleep period. Six-month-old infants sleep 12.2h, spend 10.0h awake, awake 5.2 times, have 0.4h of latency to sleep, and 5.6h of longest sleep period. Significant individual change and stability were also found on infant sleep-wake behaviors from two weeks to six months. Despite significant developmental and individual changes, individual stability explains a significant amount of the variance on infant sleep-wake behaviors over the first six months of life.

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KEYWORDS: Infant individual change; Infant individual stability; Infant sleep-wake behaviors; Infant sleep-wake development

PMID: 27448323 DOI: [10.1016/j.inbeh.2016.06.011](#)



2 weeks old	13.3 hours (3.2 hours longest sleep period)
3 months old	13 hours (5.2 hours longest sleep period)
6 months old	12.2 hours (5.6 hours longest sleep period)

Can I sleep train my baby?





Infant Sleep Training is Effective and Safe, Study Finds

9/10/2012 For Release: September 10, 2012

Studies have shown that infant sleep training methods known as “controlled comforting” and “camping out” improve infant sleep and reduce maternal depression in the short term. Some parents and health professionals want to know whether the benefits of the sleep techniques are longer lasting. A new study out of Australia, “Five-Year Follow-up of Harms and Benefits of Behavioral Infant Sleep Intervention: Randomized Trial,” in the October 2012 *Pediatrics* (published online Sept. 10), followed 225 children from infancy through age 6 to track whether a behavioral sleep program had long-lasting effects on children’s mental health, stress levels, the child-parent relationship, or maternal mental health. Parents who reported sleep problems in their 7-month-old infant were eligible for the study. Half were offered a sleep program which involved using positive bedtime routines plus one of two behavioral techniques: “controlled comforting,” in which parents respond to their infant’s cry at increasing time intervals to allow the child to self-settle; and “camping out,” in which parents sit with the child as the child learns to independently fall asleep, slowly removing their presence from the child’s room. The improvements to children’s and mothers’ sleep and mothers’ mental health were still evident as late as age 2, then faded by age 6. At this later age, children who had been offered the sleep program as babies were similar to the control group in their mental and behavioral health, sleep quality, stress and relationship with their parents. The same applied to mothers’ mental health and parenting style. The authors conclude that the sleep techniques are cost-effective and safe to use. Parents and health professionals can feel confident using behavioral techniques for managing infant sleep.

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The American Academy of Pediatrics is an organization of 60,000 primary care pediatricians, pediatric medical subspecialists and pediatric surgical specialists dedicated to the health, safety and well-being of infants, children, adolescents and young adults. For more information, visit www.aap.org.

The Evidence

Randomized Controlled Trials!

Pediatrics. 2016 Jun;137(6): pii: e20151486. doi: 10.1542/peds.2015-1486.

Behavioral Interventions for Infant Sleep Problems: A Randomized Controlled Trial.

Gradsisar M¹, Jackson K², Sourrier N³, Gibson J⁴, Whitham J², Williams AS⁵, Dolby B³, Kennaway D⁶.

@ Author information

Abstract

OBJECTIVES: To evaluate the effects of behavioral interventions on the sleep/wakefulness of infants, parent and infant stress, and later child emotional/behavioral problems, and parent-child attachment.

METHODS: A total of 43 infants (6-16 months, 63% girls) were randomized to receive either graduated extinction (n = 14), bedtime fading (n = 15), or sleep education control (n = 14). Sleep measures included parent-reported sleep diaries and infant actigraphy. Infant stress was measured via morning and afternoon salivary cortisol sampling, and mothers' self-reported mood and stress. Twelve months after intervention, mothers completed assessments of children's emotional and behavioral problems, and mother-child dyads underwent the strange situation procedure to evaluate parent-child attachment.

RESULTS: Significant interactions were found for sleep latency (P < .05), number of awakenings (P < .0001), and wake after sleep onset (P = .01), with large decreases in sleep latency for graduated extinction and bedtime fading groups, and large decreases in number of awakenings and wake after sleep onset for the graduated extinction group. Salivary cortisol showed small-to-moderate declines in graduated extinction and bedtime fading groups compared with controls. Mothers' stress showed small-to-moderate decreases for the graduated extinction and bedtime fading conditions over the first month, yet no differences in mood were detected. At the 12-month follow-up, no significant differences were found in emotional and behavioral problems, and no significant differences in secure-insecure attachment styles between groups.

CONCLUSIONS: Both graduated extinction and bedtime fading provide significant sleep benefits above control, yet convey no adverse stress responses or long-term effects on parent-child attachment or child emotions and behavior.

Pediatrics. 2012 Oct;130(4):643-51. doi: 10.1542/peds.2011-3467. Epub 2012 Sep 10.

Five-year follow-up of harms and benefits of behavioral infant sleep intervention: randomized trial.

Price AM¹, Wake M, Ukoumunne OC, Hiscock H.

@ Author information

Abstract

BACKGROUND AND OBJECTIVES: Randomized trials have demonstrated the short- to medium-term effectiveness of behavioral infant sleep interventions. However, concerns persist that they may harm children's emotional development and subsequent mental health. This study aimed to determine long-term harms and/or benefits of an infant behavioral sleep program at age 6 years on (1) child, (2) child-parent, and (3) maternal outcomes.

METHODS: Three hundred twenty-six children (173 intervention) with parent-reported sleep problems at age 7 months were selected from a population sample of 692 infants recruited from well-child centers. The study was a 5-year follow-up of a population-based cluster-randomized trial. Allocation was concealed and researchers (but not parents) were blinded to group allocation. Behavioral techniques were delivered over 1 to 3 individual nurse consultations at infant age 8 to 10 months, versus usual care. The main outcomes measured were (1) child mental health, sleep, psychosocial functioning, stress regulation; (2) child-parent relationship; and (3) maternal mental health and parenting styles.

RESULTS: Two hundred twenty-five families (69%) participated. There was no evidence of differences between intervention and control families for any outcome, including (1) children's emotional (P = .8) and conduct behavior scores (P = .6), sleep problems (9% vs 7%, P = .2), sleep habits score (P = .4), parent- (P = .7) and child-reported (P = .8) psychosocial functioning, chronic stress (29% vs 22%, P = .4); (2) child-parent closeness (P = .1) and conflict (P = .4), global relationship (P = .9), disinhibited attachment (P = .3), and (3) parent depression, anxiety, and stress scores (P = .9) or authoritative parenting (63% vs 59%, P = .5).

CONCLUSIONS: Behavioral sleep techniques have no marked long-lasting effects (positive or negative). Parents and health professionals can confidently use these techniques to reduce the short- to medium-term burden of infant sleep problems and maternal depression.

Sleep training works!

- Decreases infant awakening
- Decreases time to sleep
- Decreases maternal / infant stress (moderate / slightly)

Graduated Extinction: (aka “cry it out” or “the Ferber Method”)
Put kid to bed awake. Check at 2, then 4, then 6 minutes (repeat 6).
Next night 3, 5, 7, then 5, 10, 15...and so forth....max 35.

Sleep Fading:

Put to bed 15 min late. If still awake 15 min later then put to bed 30 min late the next night.

No harm to emotional development / mental health long term (5 years later)



How do I child proof my home?



Guidelines



Bright Futures™

prevention and health promotion for infants,
children, adolescents, and their families™



healthychildren.org

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from the American Academy of Pediatrics

CELEBRATING 10 YEARS

A lot of guidelines!!!!

- Safe sleep environment
 - Sleep alone, “back to sleep”, no loose pillows/blankets/stuffed animals, no crib bumpers
- Avoid hot or heavy objects, small objects, dangling cords
- Stair gates, barriers around space heaters, outlet covers, furniture away from windows, install window guards
- Avoid infant walkers
- Household products in locked cabinets with safety latches
 - Cleaning products, personal hygiene products, medications, houseplants, small objects, plastic bags, alcohol, trash
 - Poison control number at the ready
- Burn risk
 - Smoke detectors, fire escape plan
 - No hot liquids when holding baby, set home water temperature <120F, high chair/playpen when in kitchen
- Firearm safety (depending on the state in which you practice)
- Supervision
 - “Touch supervision” - Keep hand on baby when on elevated surface, do not leave alone in tub/pool and empty after use
 - Pet safety - monitor interactions, keep away from pet eating area
 - Supervise outside especially near cars/road

Toddler Mortality (CDC, 2017)

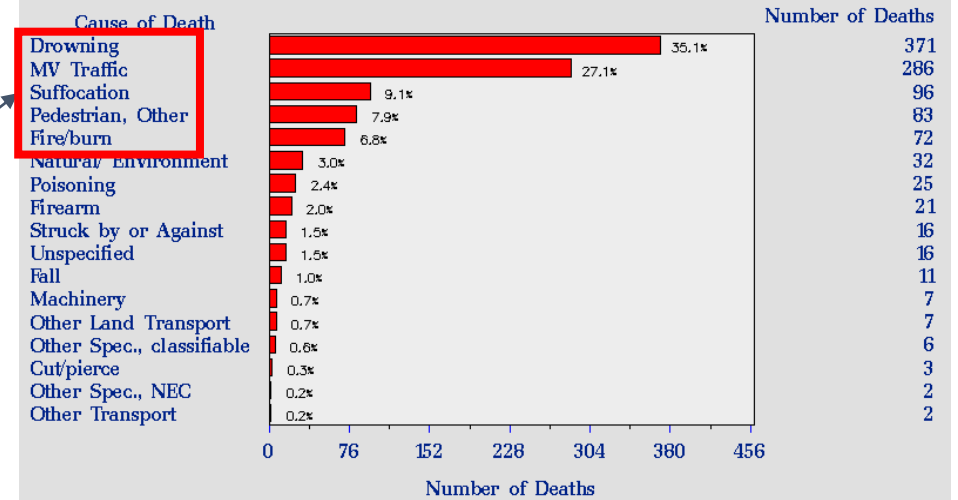
4,045 toddler deaths in 2017, causes:

1. **Accidents** 1,056 deaths
2. Congenital malformations
3. Assault (Homicide)

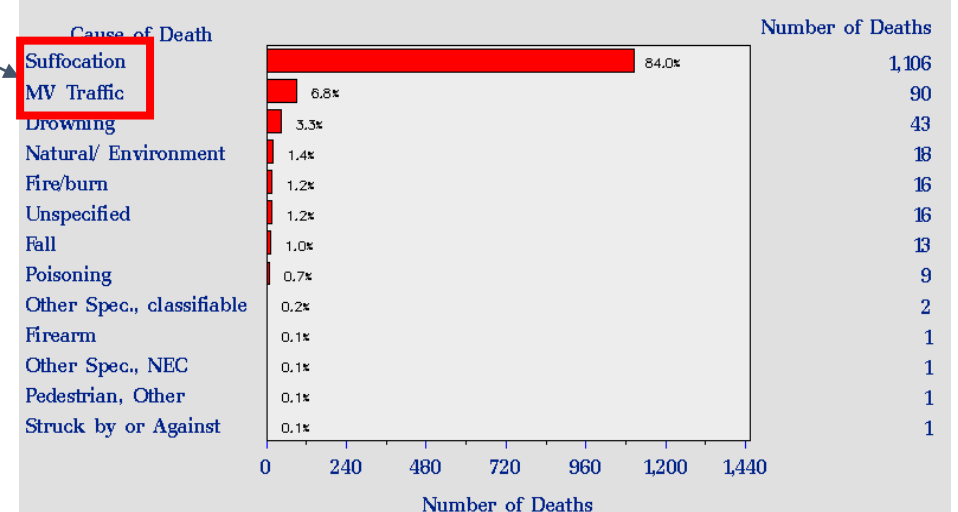
10 Leading Causes of Death, United States
2017, All Races, Both Sexes

Rank	Age Groups	
	<1	1-3
1	Congenital Anomalies 4,580	Unintentional Injury 1,056
2	Short Gestation 3,749	Congenital Anomalies 371
3	Maternal Pregnancy Comp. 1,432	Homicide 251
4	SIDS 1,383	Malignant Neoplasms 237
5	Unintentional Injury 1,317	Heart Disease 112
6	Placenta Cord Membranes 843	Influenza & Pneumonia 90
7	Bacterial Sepsis 592	Cerebro-vascular 53
8	Circulatory System Disease 449	Septicemia 44
9	Respiratory Distress 440	Perinatal Period 39
10	Neonatal Hemorrhage 379	Benign Neoplasms 37

Toddlers



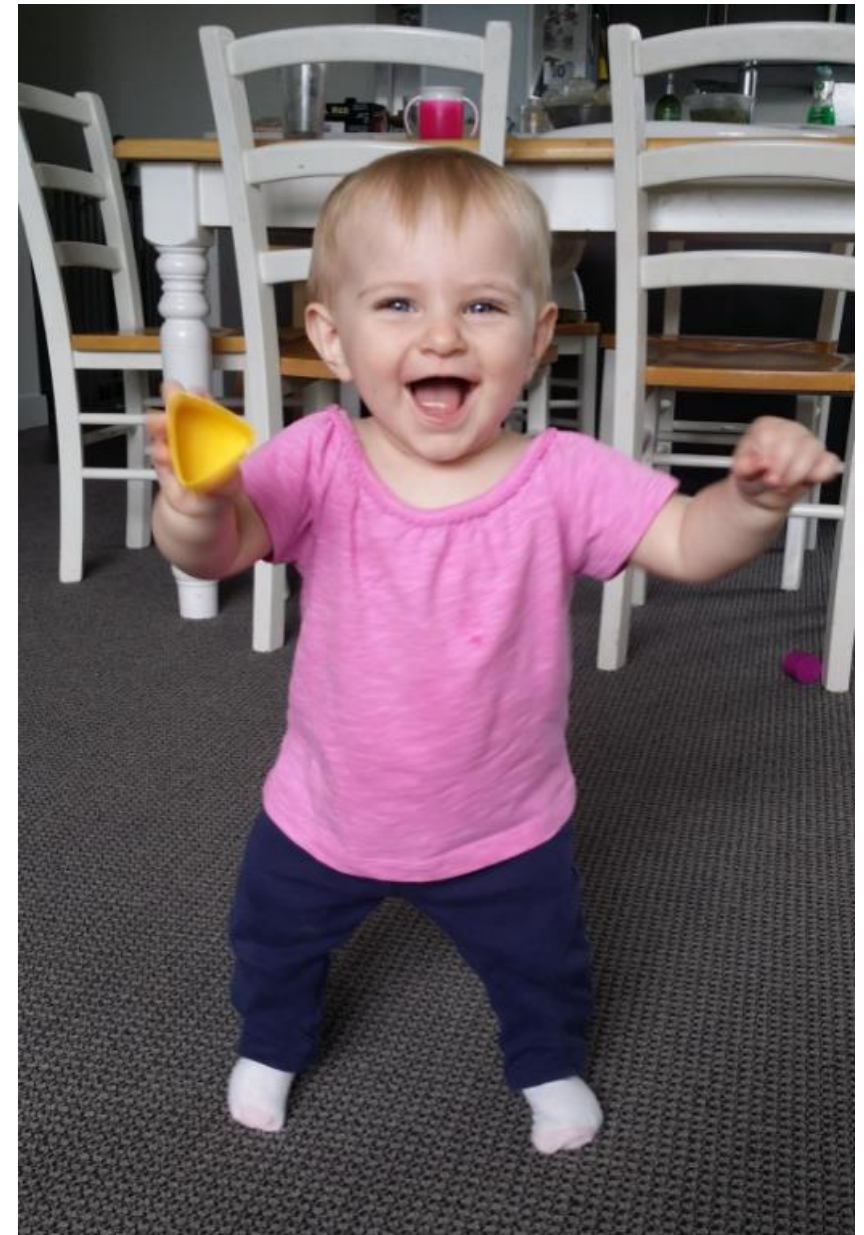
Infants



Evidence

Child Proofing

- >90% of injuries are predictable and preventable
- In-office counseling is effective, but is not the most effective strategy
- Other strategies: in-home interventions, community resources, programs, legislation



Cochrane Database Syst Rev. 2013 Mar 28;(3):CD006020. doi: 10.1002/14651858.CD006020.pub3.

Parenting interventions for the prevention of unintentional injuries in childhood.

Kendrick D¹, Mulvaney CA, Ye L, Stevens T, Milton JA, Stewart-Brown S

Author information

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Abstract

BACKGROUND: Parent education and training programmes can improve maternal psychosocial health, child behavioural problems and parenting practices. This review assesses the effects of parenting interventions for reducing child injury.

AUTHORS' CONCLUSIONS: Parenting interventions, most commonly provided within the home using multi-faceted interventions are effective in reducing child injury. There is fairly consistent evidence that they also improve home safety. The evidence relates mainly to interventions provided to families from disadvantaged populations, who are at risk of adverse child health outcomes or whose families may benefit from extra support. Further research is required to explore mechanisms by which these interventions may reduce injury, the features of parenting interventions that are necessary or sufficient to reduce injury and the generalisability to different population groups.

CMAJ. 1995 Jan 1; 152(1): 21–23.
PMCID: PMC1337489
PMID: [7804918](#)

Injury prevention: the time has come.

[R Cushman](#)

Abstract

Although cancer, heart disease and stroke occupy much of society's attention to health matters, injuries account for more potential years of life lost before age 65 than all these diseases combined. The time has come to set the record straight and to give injury its rightful place on the health policy agenda. Contrary to popular belief, most injuries are no accident. More than 90% of injuries are both predictable and preventable. Injury prevention, a multidisciplinary effort, is coming of age in Canada. Education alone is not enough. New technology, innovative approaches to safety education and the mobilization of community resources can help to change behaviour and legislation to decrease the risk of injury. Physicians have an important role to play in this process.

Am J Lifestyle Med. 2016 Feb 12;12(2):96-106. doi: 10.1177/1559827616629624. Print 2016 Mar.

Primary Care Opportunities to Prevent Unintentional Home Injuries: A Focus on Children and Older Adults.

McDonald EM¹, Mack K¹, Shields WC¹, Lee RP¹, Sellen AC¹.

Author information

Abstract

Unintentional injuries are a persistent public health problem in the United States. A new health care landscape has the potential to create a clinical environment that fosters greater involvement by health care providers in injury prevention. The aim of this article is to provide evidence supporting the need for engagement by primary care providers in unintentional home injury prevention along with examples of how this could be accomplished. We know a great deal about what population groups are at risk for certain types of injuries. We also know that many injuries can be prevented through policies, programs, and resources that ensure safe environments and promote safe behaviors. For example, the Centers for Disease Control and Prevention's STEADI (Stopping Elderly Accidents, Deaths, and Injuries) initiative comprises clinical decision support tools and educational materials for health care providers. Two effective interventions that have demonstrated a reduction in falls among children are the redesign of baby walkers (engineering) and the mandated use of window guards (enforcement). Primary care clinicians can play a key role in promoting their patient's safety. Taken collectively, a focused attention on preventing unintentional home injuries by primary care providers can contribute to the reduction of injuries and result in optimal health for all.

KEYWORDS: accidents; falls; fire; injury prevention; poisoning

PMID: 2714210 PMCID: [PMC4850838](#) DOI: [10.1177/1559827616629624](#)

Table 3.

Prevention Successes and Opportunities for Unintentional Home Injury in Children and Older Adults.

Injury	Prevention Successes and Opportunities
SUIDS	After AAP promoted supine sleep position, sudden infant death rates declined by 53% and rates of supine sleeping increased from 13% to 72%. Caregivers need to be educated that infants should sleep alone, on their backs, in a clutter-free crib with a firm mattress, and in a smoke-free environment. ^{37,38}
Falls in children	The CPSC instituted a voluntary baby walker standard in 1994, which has been credited with an 88% reduction in baby walker-associated falls between 1994 and 2008. ⁴⁷ Caregivers need to be educated to never use baby walkers with wheels.
	In 1976 the New York City board of health passed a law requiring property owners of multiple-story buildings to provide window guards for all dwellings with children younger than 10 years of age, resulting in a 96% reduction in hospital admissions for falls from windows. ⁴⁸ In the absence of such legislation, caregivers need to be educated about the use of window guards.
Poisoning in children	Studies show clear declines in poisonings after passage of the Poison Prevention Packaging Act in 1970. ^{50,51} Improperly secured safety caps or products that are not required to be packaged in a child-resistant container continue to cause poisoning, making caregiver education necessary as well. ⁴⁵
Drowning in children	Drowning prevention strategies include basic swimming skills, life jacket use, 4-sided pool fencing with self-latching gates, close supervision, no alcohol use when swimming, and bystander cardiopulmonary resuscitation (CPR) skills. ⁵⁵⁻⁵⁸

Abbreviations: AAP, American Academy of Pediatrics; CDC, Centers for Disease Control and Prevention; CPSC, Consumer Product Safety Commission; SUIDs, sudden unexplained infant deaths.

Drowning injuries decreased by 50% with installation of a four-sided fence (4 ft high, slats <4 in wide, self closing/latching gate, latch >54 in from ground, isolated from house)

When should we start toilet training?



Guidelines

American Academy
of Pediatrics



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1999

Child led

Praise not punishment

18 months may be ready

24 months start teaching

30-36 months usually daytime continence

36-48 months nighttime continence



The Evidence

Systematic Review

Evid. Base Technol. Assess. (Full Report), 2006 Dec;14(1):1-47.

The effectiveness of different methods of toilet training for bowel and bladder control.

Klassen TP, Kiddoo D, Lano ME, Eriksen C, Russett K, Spooner C, Vandemheen B

Abstract

OBJECTIVES: The objectives of this report are to determine the following: (1) the effectiveness of the toilet training methods, (2) which factors modify the effectiveness of toilet training, (3) if the toilet training methods are a risk factor for adverse outcomes, and (4) the optimal toilet training method for achieving bowel and bladder control among patients with special needs.

DATA SOURCES: MEDLINE, Ovid MEDLINE In-Process & Other Non-Indexed Citations, Ovid OLDMEDLINE, Cochrane Central Register of Controlled Trials, EMBASE, CINAHL, PsycINFO, ERIC, EBM Reviews, HealthSTAR, AMED, Web of Science, Biological Abstracts, Sociological Abstracts, OCLC ProceedingsFirst, OCLC PapersFirst, Dissertation Abstracts, Index to Theses, National Research Register's Projects Database, and trials registers.

REVIEW METHODS: Two reviewers assessed the studies for inclusion. Studies were included if they met the following criteria:

STUDY DESIGN: RCT, CCT, prospective or retrospective cohort, case-control, cross-sectional or case-series.

POPULATION: infants, toddlers, or children with or without co-morbidities, neuromuscular, cognitive, or behavioral handicaps disabilities;

INTERVENTION: at least one toilet training method; and

OUTCOME: bladder and/or bowel control, successes, failures, adverse outcomes. Methodological quality was assessed independently by two reviewers. Data were extracted by one reviewer and a second checked for accuracy and completeness. Due to substantial heterogeneity, meta-analysis was not possible.

RESULTS: Twenty-six observational studies and eight controlled trials were included. Approximately half of the studies examined healthy children while the remaining studies assessed toilet training of mentally or physically handicapped children. For healthy children, the Azrin and Foxx method performed better than the Spock method, while child-oriented combined with negative term avoidance proved better than without. For mentally handicapped children, individual training was superior to group methods; relaxation techniques proved more efficacious than standard methods; operant conditioning was better than conventional treatment, and the Azrin and Foxx and a behavior modification method fared better than no training. The child-oriented approach was not assessed among mentally handicapped children. For children with Hirschsprung's disease or anal atresia, a multi-disciplinary behavior treatment was more efficacious than no treatment.

CONCLUSIONS: Both the Azrin and Foxx method and the child-oriented approach resulted in quick, successful toilet training, but there was limited information about the sustainability of the training. The two methods were not directly compared, thus it is difficult to draw definitive conclusions regarding the superiority of one method over the other. In general, both programs may be used to teach toilet training to healthy children. The Azrin and Foxx method and operant conditioning methods were consistently effective for toilet training mentally handicapped children. Programs that were adapted to physically handicapped children also resulted in successful toilet training. A lack of data precluded conclusions regarding the development of adverse outcomes.

Child Oriented Approaches



- Dr. Brazelton
- AAP method
- Dr. Spock

Commonly done
Works well
Takes longer

Other Methods

- Azrin and Foxx "Toilet Training in a Day" 1974
- Operant Conditioning
- Assisted Infant Toilet Training
- Elimination Communication



Less commonly done
Works well (well studied)
Fast (1-3 days)
74-100% <25 month olds
93-100% older toddlers
97% 4 month success rate

Bottom Line: Developmental readiness helps. Either method works, parent preference. Slightly easier if you wait until toddler is at least 26 months old.



Cultural relativity of toilet training readiness: a perspective from East Africa.

deVries MW, deVries MR.

Abstract

Ideas about infant capabilities and toilet training practice have changed in the United States following cultural trends and the advice of child care experts. Anthropologists have shown that a society's specific infant training practices are adaptive to survival and cultural values. The different expectations of infant behavior of the **East African Digo** produces a markedly different toilet training approach than the current maturational readiness method recommended in America. The Digo believe that infants can learn soon after birth and begin motor and toilet training in the first weeks of life. With a nurturant conditioning approach, **night and day dryness is accomplished by 5 or 6 months.** The success of early Digo training suggests that sociocultural factors are more important determinants of toilet training readiness than is currently thought.



How much screen time can my toddler have?





The Guidelines (2016)

For children younger than 18 months, avoid use of screen media other than video-chatting. Parents of children 18 to 24 months of age who want to introduce digital media should choose high-quality programming, and watch it with their children to help them understand what they're seeing.

For children ages 2 to 5 years, limit screen use to 1 hour per day of high-quality programs. Parents should co-view media with children to help them understand what they are seeing and apply it to the world around them.

The Evidence

A lot of evidence!!!!

Take home points:

- 1) Babies / Toddlers (<18mo) don't learn from passive videos
- 2) Interaction / face time is key
- 3) Too much TV interferes with exercise, sleep, learning
.... associations with obesity, developmental delay...etc



Infant Behav Dev. 2015 Feb;38:20-6. doi: 10.1016/j.infbeh.2014.12.005. Epub 2014 Dec 25.

Effects of television exposure on developmental skills among young children.

Lin LY¹, Cherng RL², Chen YJ³, Chen YJ⁴, Yang HM⁵.

Ⓜ [Author information](#)

Abstract

BACKGROUND: Literature addressing the effects of television exposure on developmental skills of young children less than 36 months of age is scarce. This study explored how much time young children spend viewing television and investigated its effects on cognitive, language, and motor developmental skills.

METHODS: Data were collected from the Pediatric Clinics at University Medical Center in Southern Taiwan. The participants comprised 75 children who were frequently exposed to television and 75 children who were not or infrequently exposed to television between 15 and 35 months old. The age and sex were matched in the two groups. The Bayley Scales of Infant Development-second edition and Peabody Developmental Motor Scales-second edition were used to identify developmental skills. Independent t-tests, χ^2 tests, and logistic regression models were conducted.

RESULTS: Among 75 children who were frequently exposed to television, young children watched a daily average of 67.4 min of television before age 2, which was excessive according to the American Academy of Pediatrics. Viewing television increased the risk of delayed cognitive, language, and motor development in children who were frequently exposed to television. Cognitive, language, and motor delays in young children were significantly associated with how much time they spent viewing television. The type of care providers was critical in determining the television-viewing time of children.

CONCLUSION: We recommend that pediatric practitioners explain the impacts of television exposure to parents and caregivers to ensure cognitive, language, and motor development in young children. Advocacy efforts must address the fact that allowing young children to spend excessive time viewing television can be developmentally detrimental.

Pediatrics. 2014 May;133(5):e1163-71. doi: 10.1542/peds.2013-3998. Epub 2014 Apr 14.

Television viewing, bedroom television, and sleep duration from infancy to mid-childhood.

Cespedes EM¹, Gillman MW², Kleinman K³, Rifas-Shiman SL³, Redline S⁴, Taveras EM⁵.

Ⓜ [Author information](#)

Abstract

BACKGROUND: Television and insufficient sleep are associated with poor mental and physical health. This study assessed associations of TV viewing and bedroom TV with sleep duration from infancy to midchildhood.

METHOD: We studied 1864 children in Project Viva. Parents reported children's average daily TV viewing and sleep (at 6 months and annually from 1-7 years) and the presence of a bedroom TV (annually 4-7 years). We used mixed effects models to assess associations of TV exposures with contemporaneous sleep, adjusting for child age, gender, race/ethnicity, maternal education, and income.

RESULTS: Six hundred forty-three children (35%) were racial/ethnic minorities; 37% of households had incomes \leq \$70 000. From 6 months to 7 years, mean (SD) sleep duration decreased from 12.2 (2.0) hours to 9.8 (0.9) hours per day; TV viewing increased from 0.9 (1.2) hours to 1.6 (1.0) hours per day. At 4 years, 17% had a bedroom TV, rising to 23% at 7 years. Each 1 hour per day increase in lifetime TV viewing was associated with 7 minutes per day (95% confidence interval [CI]: 4 to 10) shorter sleep. The association of bedroom TV varied by race/ethnicity; bedroom TV was associated with 31 minutes per day shorter sleep (95% CI: 16 to 45) among racial/ethnic minority children, but not among white, non-Hispanic children (8 fewer minutes per day [95% CI: -19 to 2]).

CONCLUSIONS: More TV viewing, and, among racial/ethnic minority children, the presence of a bedroom TV, were associated with shorter sleep from infancy to midchildhood.

Psychol Sci. 2010 Nov;21(11):1570-4. doi: 10.1177/0956797610384145. Epub 2010 Sep 20.

Do babies learn from baby media?

DeLoache JS¹, Chiang C, Sherman K, Islam N, Vanderborcht M, Trosseth GL, Strouse GA, O'Doherty K.

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Abstract

In recent years, parents in the United States and worldwide have purchased enormous numbers of videos and DVDs designed and marketed for infants, many assuming that their children would benefit from watching them. We examined how many new words 12- to 18-month-old children learned from viewing a popular DVD several times a week for 4 weeks at home. The most important result was that children who viewed the DVD did not learn any more words from their monthlong exposure to it than did a control group. The highest level of learning occurred in a no-video condition in which parents tried to teach their children the same target words during everyday activities. Another important result was that parents who liked the DVD tended to overestimate how much their children had learned from it. We conclude that infants learn relatively little from infant media and that their parents sometimes overestimate what they do learn.

Child Dev. 2014 May-Jun;85(3):956-970. doi: 10.1111/cdev.12166. Epub 2013 Sep 23.

Skype me! Socially contingent interactions help toddlers learn language.

Roseberry S¹, Hirsh-Pasek K², Golinkoff RM³.

Ⓜ [Author information](#)

Abstract

Language learning takes place in the context of social interactions, yet the mechanisms that render social interactions useful for learning language remain unclear. This study focuses on whether social contingency might support word learning. Toddlers aged 24-30 months (N = 36) were exposed to novel verbs in one of three conditions: live interaction training, socially contingent video training over video chat, and noncontingent video training (yokoff video). Results suggest that children only learned novel verbs in socially contingent interactions (live interactions and video chat). This study highlights the importance of social contingency in interactions for language learning and informs the literature on learning through screen media as the first study to examine word learning through video chat technology.

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Children and Media Tips from the American Academy of Pediatrics

5/1/2018

- Be a good example
- Make it interactive
- Make it educational
- Set limits
- Screen free zones / times (ex: dinner, bed)
- Don't always use as emotional pacifier
- Parents sanity counts too!

* Very effective for one time things like airplanes / medical procedures.



How do I deal with temper tantrums?

...more rarely “Can I spank my child?”





Effective Discipline to Raise Healthy Children 2018

Robert D. Sege, Benjamin S. Siegel, COUNCIL ON CHILD ABUSE AND NEGLECT, COMMITTEE ON PSYCHOSOCIAL ASPECTS OF CHILD AND FAMILY HEALTH

Article Info & Metrics Comments

Abstract

Pediatricians are a source of advice for parents and guardians concerning the management of child behavior, including discipline strategies that are used to teach appropriate behavior and protect their children and others from the adverse effects of challenging behavior.

Aversive disciplinary strategies, including all forms of corporal punishment and yelling at or shaming children, are minimally effective in the short-term and not effective in the long-term. With new evidence, researchers link corporal punishment to an increased risk of negative behavioral, cognitive, psychosocial, and emotional outcomes for children. In this Policy Statement, the American Academy of Pediatrics provides guidance for pediatricians and other child health care providers on educating parents about positive and effective parenting strategies of discipline for children at each stage of development as well as references to educational materials. This statement supports the need for adults to avoid physical punishment and verbal abuse of children.



The 18-month visit Tantrums, time out, and time in

Toddlers are happier and healthier when they feel safe and connected. The way you and others relate to your child affects the many new connections that are forming in the toddler's brain. These early brain connections are the basis for learning, behavior and health. Early, caring relationships prepare your child's brain for the future.

Tantrums

By the time children are 18 months old, they may start to have tantrums. Many times, these tantrums happen because they can't tell you what they want in words ("I want you to read to me NOW!"). As they begin to talk more, this type of tantrum may happen less.

Encourage children to use words:

- Smile when they use happy sounds or words to get your attention.
- Look at them when they use words (even if they are interrupting).
- Answer them when they use words and they are not interrupting.

When you do this, you are teaching your child that using words is the best way to get what he wants.

Tantrums may also happen when you set limits by saying no. When you say no, distract your child with something else to do. "How about we pound on these noisy pots and pans instead?"

If the tantrum continues, ignore it as much as possible. If tantrums result in more attention, the tantrums will likely continue.

Time-out

Consider teaching "time-out" if your child starts to:

- hit
- kick
- spit

Time-out must mean "quiet and still." If your child isn't being quiet and still, it isn't time-out. Very few 18-month-olds know how to be quiet and still. You will teach him this by ending time-out the moment he is quiet and still.

Step one

- When your child is hitting, kicking, spitting or losing control, pick him up but look away so he knows this is not a hug.
- Gently hold him in your lap.
- Sit until he becomes quiet and still. At first, it may just be a brief moment.
- As soon as he is quiet and still, time-out is over. He is allowed off your lap.

Over time, your child will learn that time-out is shorter if he is simply quiet and still. Once your child is able to calm himself quickly and consistently in your lap, it is time for step two.

Step two

- Have your child sit by himself in a chair.
- You can put your hand on his lap or shoulder, but look away.
- Have your child sit there until he is quiet and still.
- As soon as he is quiet and still, time-out is over.

Once your child is able to put himself in the chair and quickly calm himself, then you can begin to use time-out. Time-out should last about one minute per year of age. Only try this when your child understands that time-out means being quiet and still.

Time-out works best when:

- You use it for one or two behaviors at a time
- There is a lot of "time in"

As your child ages, time-out may work because, when in time-out, your child is being ignored. No child likes that! This is especially true if he knows what time-in feels like.

Time-in

Time-in occurs when your child is the center of your attention! Teach him that picking up a book or a toy results in reading and snuggles or play time together (time-in). If hitting results in time-out, but picking up a book results in time-in, he will learn to stop hitting and to start picking up a book instead.

Calm down

Time out teaches your child to calm down. It helps him remain in control despite strong emotions.

Time out is healthier and safer than spanking or other forms of punishment. Physical punishment teaches children that "adults hit when they are angry".

Time out teaches children "this is how I calm myself."



The Evidence

Temper Tantrums are common!

- 24-36 months old on average
 - 87% of 18-24 months
 - 91% of 30-36 months
 - 59% of 42-48 months
- Often daily, last 1-3 minutes

Temper Tantrums.

Sistinen LL¹, Soman-Faulkner K
StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2019. Jul 14.

Author information

Excerpt

Temper tantrums are brief episodes of extreme, unpleasant, and sometimes aggressive behaviors in response to frustration or anger [1]. The literature in older children refers to these events as "rages." [2] The tantrum behaviors are usually disproportionate to the situation. In toddlers, behaviors may include crying, screaming, shouting, falling to the floor, flailing extremities, going limp, hitting, kicking, throwing items, breath-holding, pushing, pulling, or biting [3]. Tantrums occur once a day on average with a median duration of three minutes in 18- to 60-month-old children. The most common tantrum duration is 0.5 to 1 minute [4] and the child typically returns to their general mood and behavior between tantrums. The severity, frequency, and length of the events naturally decrease as the child gets older. Although the majority of temper tantrums in toddlers are typical and part of normal toddler behavior, atypical tantrums can be a presenting feature of behavioral and psychiatric disorders [5].

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Spanking and other physical punishments don't help, and may hurt

Association with child aggression, behavioral problems; parenting style not protective

“Harsh verbal discipline” also not good

Association with conduct problems, especially teens

Pediatrics. 2010 May;125(5):e1057-65. doi: 10.1542/peds.2009-2678. Epub 2010 Apr 12.

Mothers' spanking of 3-year-old children and subsequent risk of children's aggressive behavior.

Taylor CA¹, Manganello JA, Lee SJ, Rice JC

Author information

Abstract

OBJECTIVE: The goal was to examine the association between the use of corporal punishment (CP) against 3-year-old children and subsequent aggressive behavior among those children.

METHODS: Respondents (N = 2461) participated in the Fragile Families and Child Well-being Study (1998-2005), a population-based, birth cohort study of children born in 20 large US cities. Maternal reports of CP, children's aggressive behaviors at 3 and 5 years of age, and a host of key demographic features and potential confounding factors, including maternal child physical maltreatment, psychological maltreatment, and neglect, intimate partner aggression victimization, stress, depression, substance use, and consideration of abortion, were assessed.

RESULTS: Frequent use of CP (ie, mother's use of spanking more than twice in the previous month) when the child was 3 years of age was associated with increased risk for higher levels of child aggression when the child was 5 years of age (adjusted odds ratio: 1.49 [95% confidence interval: 1.2-1.8]; P < .0001), even when controlling for the child's level of aggression at age 3 and the aforementioned potential confounding factors and key demographic features.

CONCLUSIONS: Despite American Academy of Pediatrics recommendations to the contrary, most parents in the United States approve of and have used CP as a form of child discipline. The current findings suggest that even minor forms of CP, such as spanking, increase risk for increased child aggressive behavior. Importantly, these findings cannot be attributed to possible confounding effects of a host of other maternal parenting risk factors.

Spanking and child outcomes: Old controversies and new meta-analyses.

Gershoff ET¹, Grogan-Kaylor A².

Author information

Abstract

Whether spanking is helpful or harmful to children continues to be the source of considerable debate among both researchers and the public. This article addresses 2 persistent issues, namely whether effect sizes for spanking are distinct from those for physical abuse, and whether effect sizes for spanking are robust to study design differences. Meta-analyses focused specifically on spanking were conducted on a total of 111 unique effect sizes representing 160,927 children. Thirteen of 17 mean effect sizes were significantly different from zero and all indicated a link between spanking and increased risk for detrimental child outcomes. Effect sizes did not substantially differ between spanking and physical abuse or by study design characteristics. (PsycINFO Database Record.



**Mount
Sinai**

Parenting Center

1. Accept age-appropriate choices
2. Provide comfort
3. Anticipate needs
4. Give choices
5. Model handling emotions
6. Use visualizations

SECURE ATTACHMENT	
What Caregivers Can Do	Why
<ul style="list-style-type: none"> • Provide comfort during difficult moments • Offer praise 	<ul style="list-style-type: none"> • Children still need support and affection from caregivers to feel safe and calm. • When children hear regular and specific praise from their caregivers, it helps their development, behavior, and self-esteem.
AUTONOMY	
What Caregivers Can Do	Why
<ul style="list-style-type: none"> • Let children practice making choices • Start toilet training 	<ul style="list-style-type: none"> • Allowing children to make age-appropriate choices whenever possible helps them to feel powerful and in control. • Helping children to use the toilet independently is an important part of promoting autonomy.
SELF-REGULATION	
What Caregivers Can Do	Why
<ul style="list-style-type: none"> • Tell children what to expect next • Model how to handle emotions • Use visualization 	<ul style="list-style-type: none"> • Anticipating what comes next can help children to prepare and regulate their behavior. • Children learn how to handle emotions by observing those around them. • In difficult moments, visualization can help children regulate their emotions.
PERSPECTIVE TAKING	
What Caregivers Can Do	Why
<ul style="list-style-type: none"> • Play pretend 	<ul style="list-style-type: none"> • Pretend play helps children to imagine how others are feeling and what they are thinking. Developing good Perspective Taking can help to reduce conflicts with peers and improve relationships.
PROBLEM SOLVING	
What Caregivers Can Do	Why
<ul style="list-style-type: none"> • Be creative and playful • Play fill-in-the-blank games 	<ul style="list-style-type: none"> • Being silly and playing creatively with children helps them to discover new ideas and think outside the box. • Fill-in-the-blank games help children to improve their memory and attention – both important components of problem solving.

What to Do

Frequently get to observe in office!

1. Remain calm!
2. Pick your battles
3. Address need (hunger, sleep, attention, etc)
4. Communicate (words, emotion chart, mirror...)
5. Distract
6. Illusion of choice
7. Reward good behavior
8. Ignore bad behavior (bad attention is still attention)
9. Warning
10. "Time out" if escalating or physical harm
 1. Ignore until quiet and still
 2. On lap if young, by self if able (couch, chair, etc)





Infants	12-16 hours
1-2 yrs	11-14 hours
3-5 yrs	10-13 hours
6-12 yrs	9-12 hours
13-18 yrs	8-10 hours

Adequate sleep

- + attention
- + behavior
- + learning
- + memory
- + emotional regulation
- + mental / physical health
- + quality of life

Inadequate sleep

- attention
- behavior
- learning
- + accidents
- + injuries
- Physical health (HTN, DM, depression, obesity)



When can my baby eat food, and what kind?



Guidelines

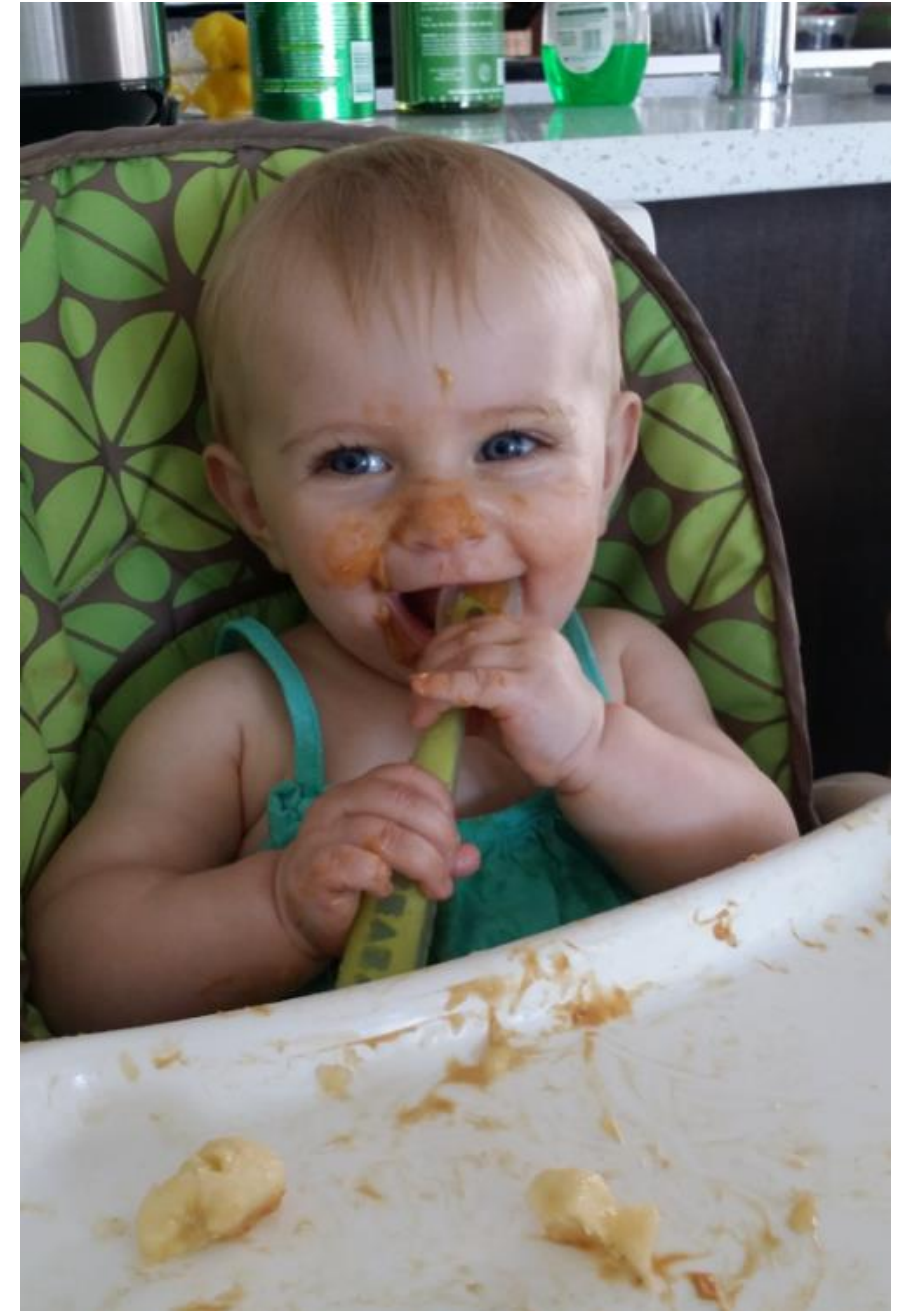
American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN®

2019

- Introduce ~ 6 months of age
- Expose to wide variety of healthy foods
- Offer variety of textures
- Offer food multiple times
- Early allergen exposure (esp peanuts & egg)



The Evidence

- Give peanuts & egg early. Reduces risk of allergies (even if high risk)
....maybe fish, no benefit for gluten
- Source of iron (usually cereal). Reduces risk of iron deficiency.
- No honey or choking foods (seeds, nuts, legumes)



<https://doi.org/10.1186/1745-2974-4-4> doi: 10.1186/1745-2974-4-4. Epub 2013 sep 12

Food choking hazards in children.

Siegel DR¹, Kim JA, Carter TB, Maresnik C, Shattock N.

Author information

1 Department of Head and Neck Surgery, David Geffen School of Medicine at UCLA, Los Angeles, CA, USA.

Abstract

OBJECTIVES: To review the literature on pediatric food choking risks, with the long-term goal of supporting legislation regulating the production, labeling, and distribution of high-risk foods.

METHODS: A PubMed search (keywords: choking, obstruction, asphyxiation, foreign body, food) was conducted in July-September 2010 with publication dates ranging from 1966 to 2010.

STUDY SELECTION: Articles related to pediatric foreign body aspiration (FBA) were selected by three independent reviewers. 1145 articles were initially identified. Abstracts were then screened utilizing a tool designed to isolate relevant pediatric choking events; this tool helped to only select abstracts which presented data on patients younger than 18 years of age who had choked on food items. Through this, a total of 72 pertinent articles were isolated (55 observational studies, 17 case reports/series).

DATA EXTRACTION: For each study, patient age, sex, foreign body location, presenting signs and symptoms, utility of radiographic studies, and type of foreign body detected in the majority of study participants were determined. A "majority" of patients for each study was predetermined arbitrarily to be 2/3 of the studied population.

RESULTS: The majority of patients in each observational study was determined to be: male (87% of all studies) and age <5 years (95% of all studies). Aspirated foreign bodies were mostly detected in the right main bronchus foreign body (72% of all studies), and there were abnormal radiographic signs (81% of all studies) at the time of evaluation. Food-object foreign bodies were the most frequent factors associated with choking (94% of all studies).

CONCLUSION: Childhood aspiration of food objects is a significant public health issue. Although there is substantial legislation regulating non-food items that pose a choking hazard, equivalent guidelines do not exist for high-risk foods. Our study identifies and confirms several risk factors for pediatric FBA events. In doing so, it echoes the concerns and suggestions of various groups in supporting the development of legislation which may reduce the incidence of food-object aspiration.

[Communit Pract. 2013 Jul 9\(7\):44-6](https://doi.org/10.1186/1745-2974-4-4)

Infant botulism: advice on avoiding feeding honey to babies and other possible risk factors.

Grant KA¹, McLachlin J, Amar C.

Author information

1 Microbiological Services, Public Health England, London.

Abstract

Botulism is a rare, but extremely serious, disease and Public Health England is responsible for its diagnosis and surveillance in the UK. Over the past five years (2008-2013), the most common form of the disease recognised in the UK has been infant botulism. The aim of this article is to raise awareness of infant botulism and highlight advice for parents and carers of infants that honey should not be fed to infants under 12 months old. Other possible risk factors for infant botulism are also discussed in this article, including household pet reptiles and herbal teas.

[N Engl J Med. 2015 Feb 26;372\(9\):803-13. doi: 10.1056/NEJMoA1414850. Epub 2015 Feb 23](https://doi.org/10.1056/NEJMoA1414850)

Randomized trial of peanut consumption in infants at risk for peanut allergy.

Du Toit G¹, Roberts G, Sayre PH, Bahnson HT, Radulovic S, Santos AF, Brough HA, Phicoard D, Basting M, Feeney M, Turciani V, Sever ML, Gomez Lorenzo M, Plaut M, Lack G; LEAP Study Team.

Collaborators (55)

Author information

Erratum in

Randomized Trial of Peanut Consumption in Infants at Risk for Peanut Allergy. [N Engl J Med. 2016]

Abstract

RESULTS: Among the 530 infants in the intention-to-treat population who initially had negative results on the skin-prick test, the prevalence of peanut allergy at 60 months of age was 13.7% in the avoidance group and 1.9% in the consumption group (P<0.001). Among the 98 participants in the intention-to-treat population who initially had positive test results, the prevalence of peanut allergy was 35.3% in the avoidance group and 10.6% in the consumption group (P=0.004). There was no significant between-group difference in the incidence of serious adverse events. Increases in levels of peanut-specific IgG4 antibody occurred predominantly in the consumption group; a greater percentage of participants in the avoidance group had elevated titers of peanut-specific IgE antibody. A larger wheal on the skin-prick test and a lower ratio of peanut-specific IgG4/IgE were associated with peanut allergy.

CONCLUSIONS: The early introduction of peanuts significantly decreased the frequency of the development of peanut allergy among children at high risk for this allergy and modulated immune responses to peanuts. (Funded by the National Institute of Allergy and Infectious Diseases and others. ClinicalTrials.gov number: NCT00329784.)

[Lancet. 2017 Jan 21;389\(10066\):276-286. doi: 10.1016/S0140-6736\(16\)31418-0. Epub 2016 Dec 9](https://doi.org/10.1016/S0140-6736(16)31418-0)

Two-step egg introduction for prevention of egg allergy in high-risk infants with eczema (PETIT): a randomised, double-blind, placebo-controlled trial.

Natsume O¹, Kabashima S², Nakazato J³, Yamamoto-Hanada K⁴, Narita M⁴, Kondo M⁵, Saito M⁴, Kishino A⁶, Takimoto T⁷, Inoue E⁷, Tang J⁸, Kido H⁹, Wong GW⁹, Matsumoto K¹⁰, Saito H¹⁰, Ohya Y¹¹; PETIT Study Team.

Author information

Abstract

FINDINGS: Between Sept 18, 2012, and Feb 13, 2015, we randomly allocated 147 participants (73 [50%] to the egg group and 74 [50%] to the placebo group). This trial was terminated on the basis of the results of the scheduled interim analysis of 100 participants, which showed a significant difference between the two groups (four [9%] of 47 participants had an egg allergy in the egg group vs 18 [38%] of 47 in the placebo group; risk ratio 0.222 [95% CI 0.081-0.607]; p=0.0012). In the primary analysis population, five (8%) of 60 participants had an egg allergy in the egg group compared with 23 (38%) of 61 in the placebo group (risk ratio 0.221 [0.090-0.543]; p=0.0001). The only difference in adverse events between groups was admissions to hospital (six [10%] of 60 in the egg group vs none in the placebo group; p=0.022). 19 acute events occurred in nine (15%) participants in the egg group versus 14 events in 11 (18%) participants in the placebo group after intake of the trial powder.

INTERPRETATION: Introduction of heated egg in a stepwise manner along with aggressive eczema treatment is a safe and efficacious way to prevent hen's egg allergy in high-risk infants. In this study, we developed a practical approach to overcome the second wave of the allergic epidemic caused by food allergy.

[JAMA. 2016 Sep 20;316\(11\):1181-1192. doi: 10.1001/jama.2016.12623](https://doi.org/10.1001/jama.2016.12623)

Timing of Allergenic Food Introduction to the Infant Diet and Risk of Allergic or Autoimmune Disease: A Systematic Review and Meta-analysis.

Ierodakonou D¹, Garcia-Larsen V², Logan A³, Groomer A³, Cunha S², Chivigne J³, Robinson Z³, Geophegan N³, Jarrold K³, Reeves T², Tagiveva-Milne N⁴, Nurmatoro U⁵, Trivella M⁶, Leonardi-Bee J⁷, Boyle RJ³.

Author information

Abstract

RESULTS: Of 16 289 original titles screened, data were extracted from 204 titles reporting 146 studies. There was moderate-certainty evidence from 5 trials (1915 participants) that early egg introduction at 4 to 6 months was associated with reduced egg allergy (risk ratio [RR] 0.56; 95% CI, 0.36-0.87; I² = 36%, P = .009). Absolute risk reduction for a population with 5.4% incidence of egg allergy was 24 cases (95% CI, 7-35 cases) per 1000 population. There was moderate-certainty evidence from 2 trials (1550 participants) that early peanut introduction at 4 to 11 months was associated with reduced peanut allergy (RR, 0.29; 95% CI, 0.11-0.74; I² = 66%, P = .009). Absolute risk reduction for a population with 2.5% incidence of peanut allergy was 18 cases (95% CI, 6-22 cases) per 1000 population. Certainty of evidence was downgraded because of imprecision of effect estimates and indirectness of the populations and interventions studied. Timing of egg or peanut introduction was not associated with risk of allergy to other foods. There was low- to very low-certainty evidence that early fish introduction was associated with reduced allergic sensitization and rhinitis. There was high-certainty evidence that timing of gluten introduction was not associated with celiac disease risk, and timing of allergenic food introduction was not associated with other outcomes.

CONCLUSIONS AND RELEVANCE: In this systematic review, early egg or peanut introduction to the infant diet was associated with lower risk of developing egg or peanut allergy. These findings must be considered in the context of limitations in the primary studies.

[Nutrients. 2017 Jul 11;9\(7\): pii: E733. doi: 10.3390/nu9070733](https://doi.org/10.3390/nu9070733)

Importance of Dietary Sources of Iron in Infants and Toddlers: Lessons from the FITS Study.

Finn K¹, Callen C², Bhatta J³, Resdyk K⁴, Becharat L⁴, Carvalho R⁵.

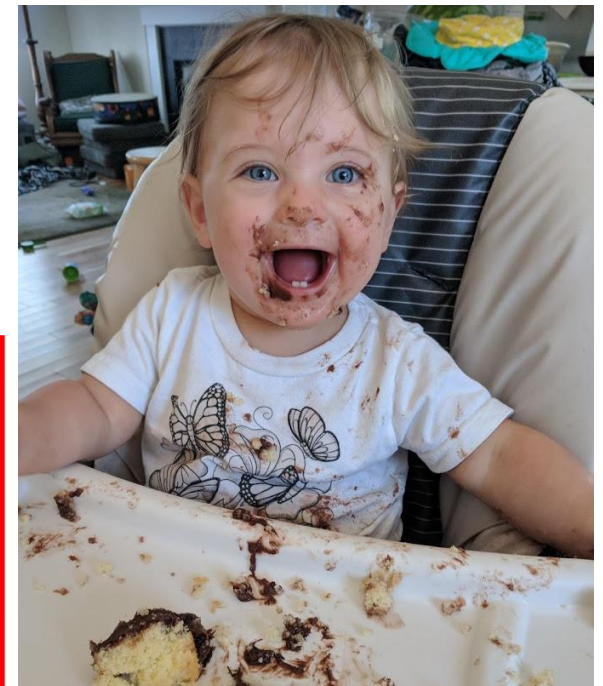
Author information

Abstract

Iron deficiency (ID) affects 13.5% of 1-2 year old children in the US and may have a negative impact on neurodevelopment and behavior. Iron-fortified infant cereal is the primary non-heme iron source among infants aged 6-11.9 months. The objective of this study was to compare iron intakes of infant cereal users with non-users. Data from the Feeding Infants and Toddlers Study 2008 were used for this analysis. Based on a 24-h recall, children between the ages of 4-17.9 months were classified as 'cereal users' if they consumed any amount or type of infant cereal and 'non-users' if they did not. Infant cereal was the top source of dietary iron among infants aged 6-11.9 months. The majority of infants (74.6%) aged 6-8.9 months consumed infant cereal, but this declined to 51.5% between 9-11.9 months and 14.8% among 12-17.9 months old toddlers. Infant cereal users consumed significantly more iron than non-users across all age groups. Infants and toddlers who consume infant cereal have higher iron intakes compared to non-users. Given the prevalence of ID, the appropriate use of infant cereals in a balanced diet should be encouraged to reduce the incidence of ID and iron deficiency.

The Evidence

- Infants love sweet and salty, reject bitter
 - Early experience can mold this
 - Modify foods (ex sugar on broccoli)
- Giving a wide variety can decrease pickiness later. Give what you are eating!
- Introduce after 4 months, 4-6 months a good window
- Be a good role model!



Matern Child Nutr. 2017 Oct;13 Suppl 2. doi: 10.1111/mcn.12505

Complementary feeding practices: Current global and regional estimates.

White JM¹, Bégin F¹, Kumari R², Murray C², Krusevic J²

Author information

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2 Data and Analytics Section, Division of Data, Research and Policy, UNICEF, New York, New York, USA

Abstract

Insufficient quantities and inadequate quality of complementary foods, together with poor feeding practices, pose a threat to children's health and nutrition. Interventions to improve complementary feeding are critical to reduce all forms of malnutrition, and access to data to ascertain the status of complementary feeding practices is essential for efforts to improve feeding behaviours. However, sufficient data to generate estimates for the core indicators covering the complementary feeding period only became available recently. The current situation of complementary feeding at the global and regional level is reported here using data contained within the UNICEF global database. Global rates of continued breastfeeding drop from 74.0% at 1 year of age to 46.3% at 2 years of age. Nearly a third of infants 4-5 months old are already fed solid foods, whereas nearly 20% of 10-11 months old had not consumed solid foods during the day prior to their survey. Of particular concern is the low rate (28.2%) of children 6-23 months receiving at least a minimally diverse diet. Although rates for all indicators vary by background characteristics, feeding behaviours are suboptimal even in richest households, suggesting that cultural factors and poor knowledge regarding an adequate diet for young children are important to address. In summary, far too few children are benefiting from minimum complementary feeding practices. Efforts are needed not only to improve children's diets for their survival, growth, and development but also for governments to report on progress against global infant and young child feeding indicators on a regular basis.

Adv Nutr. 2016 Jan 15;7(1):211S-219S. doi: 10.3945/an.115.008649. Print 2016 Jan.

Vegetable and Fruit Acceptance during Infancy: Impact of Ontogeny, Genetics, and Early Experiences.

Mennella JA¹, Reiter AR², Daniels LM²

Author information

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Abstract

Many of the chronic illnesses that plague modern society derive in large part from poor food choices. Thus, it is not surprising that the Dietary Guidelines for Americans, aimed at the population 22 y of age, recommends limiting consumption of salt, fat, and simple sugars, all of which have sensory properties that we humans find particularly palatable, and increasing the variety and contribution of fruits and vegetables in the diet, to promote health and prevent disease. Similar recommendations may soon be targeted at even younger Americans: the B-24 Project, led by the US Department of Health and Human Services and the USDA, is currently evaluating evidence to include infants and children from birth to 2 y of age in the dietary guidelines. This article reviews the underinvestigated behavioral phenomena surrounding how to introduce vegetables and fruits into infants' diets, for which there is much medical lore but, to our knowledge, little evidence-based research. Because the chemical senses are the major determinants of whether young children will accept a food (e.g., they eat only what they like), these senses take on even greater importance in understanding the bases for food choices in children. We focus on early life, in contrast with many other studies that attempt to modify food habits in older children and thus may miss sensitive periods that modulate long-term acceptance. Our review also takes into consideration ontogeny and sources of individual differences in taste perception, in particular, the role of genetic variation in bitter taste perception.

Am J Clin Nutr. 2016 Jun;93(6):1400-1407. doi: 10.3945/ajcn.115.1205. Epub 2016 Apr 27.

Early solid feeding and recurrent childhood eczema: a 10-year longitudinal study

D M Fergusson¹, L J Horwood, F T Shannon

Affiliations + expand

PMID: 2216619

Abstract

The relationship between early solid feeding practices and risks of recurrent or chronic eczema in childhood was examined in a birth cohort of New Zealand children studied to the age of 10. By the age of 10 years, 7.5% of children had chronic or recurrent eczema. There were clear and consistent associations between the diversity of the child's diet during the first 4 months and risks of eczema. Even when due allowance was made for a range of confounding factors—including parental atopic illness, atopic illness in siblings, the child's early milk diet, and family social background—children exposed to four or more different types of solid food before 4 months had risks of recurrent or chronic eczema that were 2.9 times those of children who were not exposed to early solid feeding. It is concluded that early exposure to a diet diverse in potential food antigens may act to predispose susceptible children to recurrent or chronic childhood eczema.

How do I brush my baby's teeth?



Guidelines

- Use clean cloth to wipe gums before teeth
- Manual and electric work equally well with good technique
- Floss when child has two teeth in close contact (usually age 2-2.5yrs)



Evidence

- Brushing x1 minute = 27% plaque removal
- Brushing x2 minutes = 42% plaque removal
- Fluoride toothpaste prevents cavities in children <6 yrs of age

10.1111/j.1365-2134.2012.04103.x
The efficacy of manual toothbrushes following a brushing exercise: a systematic review.
Seth DE, Yisoo H, Boonin N, Van der Weiden GA
© Author information
Abstract
AIM: To determine the efficacy of manual tooth brushing with respect to toothbrush design and brushing duration.
MATERIAL AND METHODS: The PubMed-MEDLINE and Cochrane CENTRAL were searched through October 2010 to identify appropriate studies. The outcome measurement was dental plaque removal following subject brushing.
RESULTS: The search yielded 2119 titles and abstracts. Ultimately, 59 papers with 212 brushing exercises as separate legs of the experiments and meeting the eligibility criteria were selected. Overall, a brushing exercise provides a 42% (21) plaque score reduction (95% CI: 41.23, 42.63). Of the brushing studies providing data as assessed according to the Quigley and Hein plaque index, the weighted mean reduction from baseline in plaque scores was 30% (95% CI: 26.79, 33.21). A weighted mean plaque score reduction of 53% (95% CI: 49.51, 56.48) was observed in the experiments using the Navy plaque index. Subanalysis between the different bristle tuft configurations illustrated variation in plaque removal ability (24-61%). The angled bristle design numerically showed the highest mean plaque reduction with either index. A subanalysis of brushing duration revealed after 1 min, a mean reduction of 27% and after 2 min, 41%.
CONCLUSION: The efficacy in plaque removal following a brushing exercise is a reduction from baseline plaque scores of 42% on average, with a variation of 30-53% dependent on the plaque index used. The available evidence indicates that bristle tuft arrangement (flat tuft, multilevel, angled) and brushing duration are factors that contribute to the variation in observed efficacy.
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Fluoride toothpaste use for young children

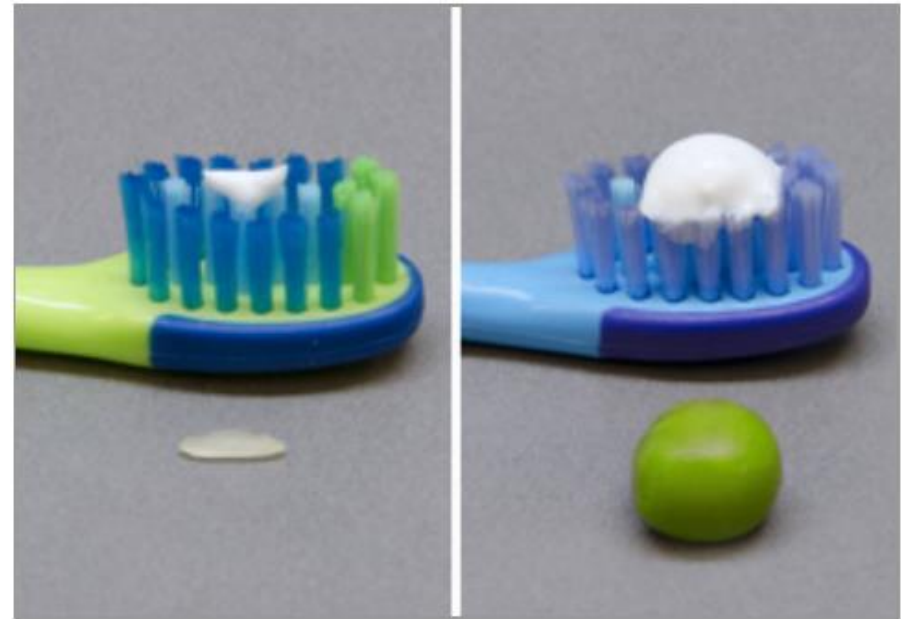
At its April 2012 meeting, the American Dental Association (ADA) Council on Scientific Affairs met with stakeholders to discuss differing public messaging on the use of fluoride toothpaste for young children. The participants agreed that a unified recommendation on the use of fluoride toothpaste for young children would be preferable and less confusing to the public. To assess the effectiveness and safety of using fluoride toothpaste for young children, the Council recommended a systematic review of the evidence.



Evidence

Amount of toothpaste

- Ingesting pea-sized fluoride toothpaste can lead to mild fluorosis
- Optimal dose 0.05 mg/kg/day
- For 15 kg 2 year old:
 - Smear x2 daily = 0.013 mg/kg
 - Pea x2 daily = 0.033 mg/kg



Levy SM, Boffitt B, Starshak TA and colleagues. Associations between fluorosis of permanent incisors and fluoride intake from infant formula, other dietary sources and dentifrice during early childhood. JADA 2010;141(10):1190-1201. Copyright ©2010 American Dental Association. All rights reserved. Reprinted by permission.

When do we stop using pacifiers / thumb suck?



Guidelines

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN®



Normal < 4 years old

Most stop 2-4 years old

Can affect tooth development

More aggressive /
frequent sucking can
be worse for teeth

The Evidence

The Good:

- Less atopic sensitization
- Comforting
- Less SIDS (pacifier)



The Bad:

- ? Breastfeeding (pacifier)
- Risk of temporary / permanent dental problems (not often age related)
- Worse if permanent teeth come in
- Worse if sucking frequently

Pediatrics. 2016 Aug;138(2): pii: e20160443 doi: 10.1542/peds.2016.0443 Epub 2016 Jul 11

Thumb-Sucking, Nail-Biting, and Atopic Sensitization, Asthma, and Hay Fever.

Lynch SA¹, Sears MR², Hancox RA³.

Author information

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- 2 Firestone Institute for Respiratory Health, Michael de Groot School of Medicine, McMaster University and St Joseph's Healthcare, Hamilton, ON, Canada
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Abstract

BACKGROUND: The hygiene hypothesis suggests that early-life exposure to microbial organisms reduces the risk of developing allergies. Thumb-sucking and nail-biting are common childhood habits that may increase microbial exposures. We tested the hypothesis that children who suck their thumbs or bite their nails have a lower risk of developing atopy, asthma, and hay fever in a population-based birth cohort followed to adulthood.

METHODS: Parents reported children's thumb-sucking and nail-biting habits when their children were ages 5, 7, 9, and 11 years. Atopic sensitization was defined as a positive skin-prick test (≥2-mm weal) to ≥1 common allergen at 13 and 32 years. Associations between thumb-sucking and nail-biting in childhood, and atopic sensitization, asthma, and hay fever at these ages were assessed by using logistic regression with adjustments for sex and other potential confounding factors: parental atopy, breastfeeding, pet ownership, household crowding, socioeconomic status, and parental smoking.

RESULTS: Thirty-one percent of children were frequent thumb-suckers or nail-biters at ≥1 of the ages. These children had a lower risk of atopic sensitization at age 13 years (odds ratio 0.67, 95% confidence interval 0.48-0.92, $P = .013$) and age 32 years (odds ratio 0.61, 95% confidence interval 0.46-0.81, $P = .001$). These associations persisted when adjusted for multiple confounding factors. Children who had both habits had a lower risk of atopic sensitization than those who had only 1. No associations were found for nail-biting, thumb-sucking, and asthma or hay fever at either age.

CONCLUSIONS: Children who suck their thumbs or bite their nails are less likely to have atopic sensitization in childhood and adulthood.

J Pediatr Nurs. 2012 Dec;27(6):690-9. doi: 10.1016/j.pedn.2012.01.004. Epub 2012 Feb 16.

A comprehensive review of evidence and current recommendations related to pacifier usage.

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Author information

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Abstract

Pacifier usage is controversial, and published recommendations are contradictory. The purposes of this literature review were to provide a comprehensive summary of risks and benefits of pacifier usage based upon the highest levels of evidence available and to provide a reference for nurses to utilize while assisting mothers in making an informed decision. Results indicated that benefits include reported ability to soothe/comfort, decreased risk of sudden infant death syndrome, and a probable synergistic role in adjunctive pain relief. Greatest risks are an increased incidence of acute otitis media, possible negative impact on breast-feeding, and dental malocclusion particularly if usage is greater than 2-3 years. The frequency, intensity, and duration of pacifier use are related to type and extent of all risks.

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ASDC, J Dent Child. 1996 Nov-Dec;63(6):403-7.

Damage to the primary dentition resulting from thumb and finger (digit) sucking.

Fukuta O¹, Braham RL, Yokoi K, Kurosu K.

Author information

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Abstract

It is estimated that approximately 50 percent of infants at one year of age suck a thumb or finger. The number decreases rapidly by ages four to five years. The average age for spontaneous cessation of the habit is 3.8 years of age. Anterior open bite is the most frequent malocclusion reported with digit sucking. In this study the authors investigated the influence of thumb and finger-sucking in the anterior and posterior sections of the primary dentition in three age-groups: three, four, and five years. The study population included 930 subjects. Data for the non-oral-habit group were compared with the data for the thumb and/or finger-sucking group. At all ages the frequencies of open-bite and maxillary protrusion for the thumb and finger-sucking group were higher than the non-oral-habit group. The frequencies did not appear age-related. There appeared to be an increased tendency to a permanent malocclusion in children who continued after four years of age.



THUMB SUCKING- Before



After a Thumb crib



When should we change to a toddler bed?



Guidelines

..... ???

A lot of blogs and .com website about how to transition

Wide range of ages, 18 months to 4 years



The Evidence

The Facts:

63% in crib at 24 months (2 years)

34% in crib at 29 months

12% in crib at 36 months (3 years)

The Benefits:

Crib sleepers go to bed 12 min earlier

Fall asleep 9 minutes earlier

30 minutes more sleep per night & less awakenings

The Risks:

[Sleep Med.](#) 2019 Feb;54:16-21. doi: 10.1016/j.sleep.2018.10.012. Epub 2018 Nov 1.

Caregiver-perceived sleep outcomes in toddlers sleeping in cribs versus beds.

Williamson AA¹, Leichman ES², Walters RM³, Mindell JA⁴.

Author information

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- 4 Sleep Center, Children's Hospital of Philadelphia, Philadelphia, PA, USA; Saint Joseph's University, Philadelphia, PA, USA.

Abstract

OBJECTIVE: Little is known about whether sleep space impacts toddler sleep outcomes. We examined the prevalence of crib-sleeping and its association with caregiver-reported sleep patterns and problems in a large sample of toddlers from Western countries.

METHODS: Participants were caregivers of 1983 toddlers ages 18.0-35.9 months (51.7% male; mean age 25.3 months) from Australia, Canada, New Zealand, the United Kingdom, and the United States sleeping in a crib or bed in a separate room from caregivers. Caregiver-reported sleep patterns and problems were collected via a free, publicly available child sleep smartphone application.

RESULTS: Across countries/regions, rates of crib-sleeping decreased linearly with age, with 63.4% of toddlers ages 18.0-23.9 months, 34.3% of toddlers ages 24.0-29.9 months, and 12.6% of toddlers ages 30.0-35.9 months sleeping in a crib. Across age groups and countries, crib sleeping was significantly associated with an earlier bedtime, shorter sleep onset latency, fewer night awakenings, longer stretches of time asleep, increased nighttime sleep duration, and decreased bedtime resistance and sleep problems. The duration of night awakenings did not significantly differ by sleep space.

CONCLUSION: Sleeping in a crib instead of a bed is associated with enhanced caregiver-reported sleep quantity and quality for toddlers in Western countries. Consistent with practice recommendations, deferring the crib-to-bed transition until age 3 years may benefit toddlers' sleep in Western contexts. Additional research is needed to identify the impact of sleep space on child sleep in other countries/regions.

[Pediatrics.](#) 2017 Apr;139(4): pii: e20162503. doi: 10.1542/peds.2016-2503. Epub 2017 Mar 13.

Nursery Product-Related Injuries Treated in United States Emergency Departments.

Gaw CE^{1,2}, Chounthirath T¹, Smith GA^{3,4,5}.

Author information

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- 5 Child Injury Prevention Alliance, Columbus, Ohio.

Abstract

OBJECTIVE: The goal of this study was to determine the epidemiology of injuries associated with nursery products among young children treated in US emergency departments.

METHODS: Data from the National Electronic Injury Surveillance System were retrospectively analyzed for patients aged <3 years who sustained an injury associated with a nursery product from 1991 through 2011.

RESULTS: An estimated 1 391 844 (95% confidence interval, 1 169 489-1 614 199) nursery product-related injuries among children aged <3 years were treated in US emergency departments during the 21-year study period, averaging 56.29 injuries per 10 000 children. The annual injury rate decreased significantly by 33.9% from 1991 to 2003, followed by a significant increase of 23.7% from 2003 to 2011. The decrease was driven by a significant decline in baby walker/jumper/exerciser-related injuries; the increase was driven by a significant increase in concussions and closed head injuries. Nursery product-related injuries were most commonly associated with baby carriers (19.5%), cribs/mattresses (18.6%), strollers/carriages (16.5%), or baby walkers/jumpers/exercisers (16.2%). The most common mechanism of injury was a self-precipitated fall (80.0%), and the most frequently injured body region was the head or neck (47.1%).

CONCLUSIONS: Although successful injury prevention efforts with baby walkers led to a decline in nursery product-related injuries from 1991 to 2003, the number and rate of these injuries have been increasing since 2003. Greater efforts are warranted to prevent injuries associated with other nursery products, especially baby carriers, cribs, and strollers. Prevention of falls and concussions/closed head injuries associated with nursery products also deserves special attention.



How much should my baby poop?



Department: Patient Education Review

Educating parents about normal stool pattern changes in infants *

Aundrea Arias RN, MS, Jill Bennison RN, MS, Kelly Justus RN, MS, Dina Thurman RN, MS

Table 1. Stooling patterns of healthy children

Authors	n	Age of subjects	Range of stools/d	Mean No. of stools/d
Nyhan (1952)	800	Newborn	1-9	4
Colon & Jacobs (1977)	257	Newborn	2-5	—
		Infant	2-3	—
		Children	1-2	—
		Adolescent	1-2	—
Lemoh & Brooke (1979)	55	1 wk	—	4
		8-28 d	—	2.2
		1-12 mo	—	1.8
		13-24 mo	—	1.7
Weaver & Steiner (1984)	350	1-4 y	<1-3	1.44
Fontana et al. (1989)	662	5 d-15 y	—	1.36
Hyams et al. (1995)	283	1 mo		
		Breast-fed	0.3-9.6	4.2
		Enfamil	0.4-6.7	2.3
		Enfamil w/iron	0.9-4.1	2.1
		ProSoBee	0.7-4.1	2.2
		Nutramigen	1.1-8.6	3.6
Tham et al.	140	0-24 mo		
		Breast-fed	0.3-8	4.4
		Formula-fed	0.6-3.9	1.6

Dashes indicate information not reported.

Guidelines ??

The Scoop on Babies' Poop

When it comes to your baby's poop also known as bowel movements (BMs), there is no "normal" number or schedule. The number, color, and texture of BMs vary greatly in the same baby and between babies of similar age.

Common patterns:

Newborns (Birth - 1 month)

The first bowel movements babies have are thick and dark green or black in color.

A formula fed baby usually has yellowish to tan BMs that are the texture of peanut butter.

A breast fed baby's BMs will become yellowish, loose, and "seedy" in texture.



Can have as many as 8-10 BMs per day or may go 1 or more days without a BM

As long as your baby is feeding well and wetting his/her diaper well 6 times per day, there is no need to be concerned if your baby goes a day or more without a BM.

After the newborn period (1 month - 12 months)

The color of the BMs depends on a variety of things, including what a breastfeeding mom is eating, the type of formula, and how often and how much baby is fed.

The number of BMs may decrease. It is possible for babies not to have a BM for 1 week and then have a normal soft BM.

Iron supplements may cause the BM to appear black or dark green.

You should not worry about the color of the BM unless it is black, red, or white.

Starting solids



BMs start to smell more than before.

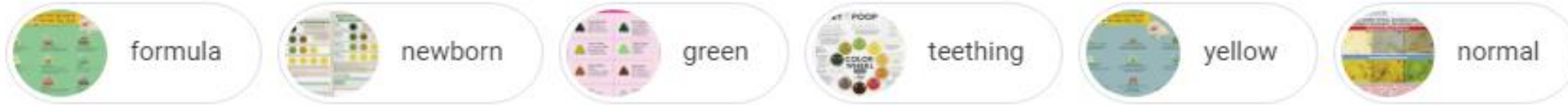
Rice cereal may cause BMs to be more formed.

Beets may cause BMs to be red.

Spinach, peas, and green beans may cause BMs to be green.

Carrots and sweet potatoes may cause BMs to be orange.

BMs will firm up, but will also change texture based on what the baby is eating.



Baby Poop Guide thebump.com



Baby Poop Guide: Color... parents.com



Baby Poop Color and Te... iytmed.org



Baby Poop and What It ... health.clevelandclinic.org



The Poop Palette: Wha... nationwidechildrens.org



Your baby poop colour ch... motherandbaby.co.uk



Green Poop in Babies: Wh... findatopdoc.com



Why is my baby's poop thi... pbs.org



Breastfed Baby Poop: How It... parents.com



poop color...HEL community.whattc

How should I bathe my baby?



Guidelines

Variations, but for the most part agree:

- 1st bath 24h after birth
- Sponge bath until umbilical cord off
- Bathe in infant tub or sink
- Avoid bath seats and supervise closely
- ~3 baths/week for baby's 1st year
- Minimal use of soap

Bathing and cleansing in newborns from day 1 to first year of life: recommendations from a European round table meeting

U Blume-Peytavi ✉, MJ Cork, J Faergemann, J Szczapa, F Vanaclocha, C Gelmetti

First published: 03 June 2009 | <https://doi.org/10.1111/j.1468-3083.2009.03140.x> | Cited by: 56



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TABLE 2. Summary of Studies: Effects of Washing and Bathing Procedures

Author	Topic	Study design (Level of Evidence)	Sample size, n	Age, parameter	Main outcome parameter/ intervention	Results
Henningsson et al (28)	Comparison of bathing and washing	Comparative (II)	205	Newborn; initial bath (> 2 hours after birth)	Body temperature, crying/ bathing in lukewarm water or washing with a washcloth (with soap)	Temperature decrease was more pronounced in washed than in bathed newborns ($p < 0.001$); significantly more babies cried during washing
Hylén et al (29)	Comparison of bathing and washing	Observational (III)	618	Newborn; bathing or washing daily (4 days)	Body temperature, crying/ bathing in tub (37°C water) or washing with a face-flannel (no soap)	Temperature decrease was more pronounced in washed than in bathed newborns; more infants cried during washing than during bathing ($p < 0.001$)
Nako et al (27)	Effects of bathing on neonatal adaptation and morbidity	Prospective randomized, comparative (I)	187	Newborn; bathing 2–5 minutes after birth	Rectal temperature, respiratory rate, heart rate, blood pressure, oxygen saturation, complications	Temperature (30 minutes after a 2–5 minute bath) was significantly higher than after dry care (37.3°C vs 37.0°C); no difference observed in other parameters
Visscher et al (26)	Effect of bathing on diapered skin	Open, noncontrolled (III)	52	3–6 mos	TEWL, hydration, moisture accumulation (MAT), frictional coefficient, erythema, dryness, scaling/comparison diapered versus nondiapered skin before and after bathing (10 minute)	Diapered skin: significantly higher erythema, TEWL, surface hydration, MAT, and friction than nondiapered skin before bathing. Nondiapered skin: bathing elevated TEWL, hydration, and MAT (in diapered skin these parameters were unchanged). At both skin areas: bathing significantly decreased friction (up to 80%), erythema (63% decrease), visual redness and dryness
Bryanton et al (30)	Tub bathing versus traditional sponge bathing	Randomized controlled (I)	102	Newborn to 24 hours; initial bath 2–24 hours after birth, one additional bath	Axillary body temperature, cord healing, contentedness of babies, maternal confidence with bath/ bathing: approximately 10 minutes (water temperature: 37.8–38.8°C); soft cloth and mild cleanser used for both procedures	Tub-bathed babies experienced significantly less temperature loss; no differences in cord healing scores (measured up to day 3 after birth); tub-bathed babies were significantly more content than those who were sponge-bathed
Garcia Bartels et al (25)	Effect of bathing and washing on skin barrier function and adaptation	Monocenter, prospective, randomized (II)	57	≤48 hours, study period 4 wks; bathing or washing routine starting on day 7	TEWL, SCH, pH, sebum level/bathing or washing with wet cotton wool cloth and clear water twice weekly	Significantly lower TEWL (only on buttock), higher SCH (abdomen, forehead) in bathed infants than washed infants on day 28; no significant differences in skin surface pH and sebum levels

The Evidence

Most studies look at the 1st year of life (or less), or infants and children with eczema

Large variation in outcome measures

Evidence

- 1st bath 24h after birth decreases hypothermia and hypoglycemia, avoids interruption of bonding/breastfeeding, vernix prevent skin drying
- Bathing immersed in water superior to washing
- Using synthetic detergents (syndets) or mild liquid baby cleansers comparable with water alone
- Bath seats associated with infant drowning deaths

[Pediatr. Dermatol.](#), 2012 Jan-Feb;29(1):1-14. doi: 10.1111/j.1525-1470.2011.01594.x. Epub 2011 Oct 20.

Skin care practices for newborns and infants: review of the clinical evidence for best practices.

Blume-Peytavi U¹, Hauser M, Stamatias GN, Pathirana D, Garcia Bartels N

© [Author information](#)

Abstract

In recent years, there have been continuing efforts to understand the effects of baby skin care routines and products on the healthy development of baby skin. Such efforts aim ultimately to determine the best infant skin care practices. The pediatric and dermatologic communities have not reached consensus on what constitutes an appropriate cleansing practice. In the United States, guidelines for neonatal skin care have been developed, propagated, and implemented. The accumulated knowledge has promoted evidence-based clinical practices and, therefore, may help to improve clinical outcomes, although these guidelines primarily cover the care of preterm newborns and the treatment of those with other health problems. High-level, long-term clinical evidence of the effective and safe cleansing of healthy, full-term newborns and infants is scarce. This review presents a comprehensive analysis of the scientific literature on baby skin development, cleansing practices, and related products (for healthy newborns and babies) since 1970. The evidence drawn from the reviewed literature can be summarized as follows: Bathing immersed in water seems generally superior to washing alone. Bathing or washing with synthetic detergents (syndets) or mild liquid baby cleansers seems comparable with or even superior to water alone. Nevertheless, larger randomized clinical trials with age-defined cohorts of babies as well as more-defined parameters are required to identify optimal practices and products for skin cleansing of healthy infants. These parameters may include standardized skin function parameters such as transepidermal water loss, stratum corneum hydration, skin surface pH, and sebum production. Clinical skin scores such as the Neonatal Skin Condition Score may be employed as outcome measures.

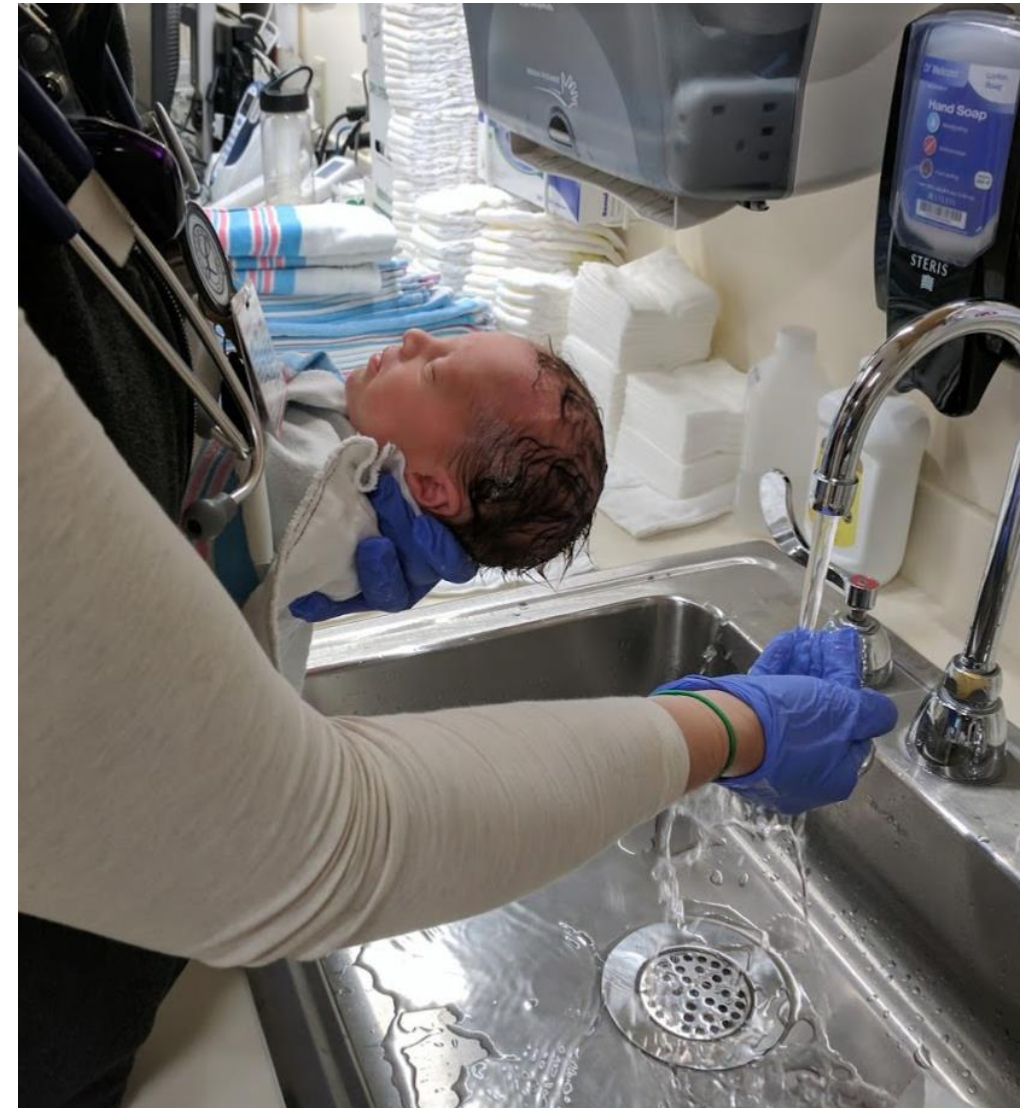
PEDIATRICS

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

ELECTRONIC ARTICLE

The Role of Bathtub Seats and Rings in Infant Drowning Deaths

Renae RauchsSchwalbe, Ruth A. Brenner and Gordon S. Smith
Pediatrics October 1997, 100 (4) e1; DOI: <https://doi.org/10.1542/peds.100.4.e1>



What about children with eczema?

- No consensus on frequency, bath vs shower
- Lack of high-quality studies of benefit of bath emollient additives (eg liquid paraffin, oils, oatmeal)
 - International European guidelines and American Academy of Allergy, Asthma, Immunology are for the use of bath emollient additives, American Academy of Dermatology is against

Pediatr Dermatol. 2015 Jul-Aug;32(4):e194-6. doi: 10.1111/pde.12618. Epub 2015 May 13.

Bathing Frequency Recommendations for Children with Atopic Dermatitis: Results of Three Observational Pilot Surveys.

Cardona ID¹, Kempe E², Hatzenbeunler JR¹, Antaya RJ³, Cohen B⁴, Jain N⁵.

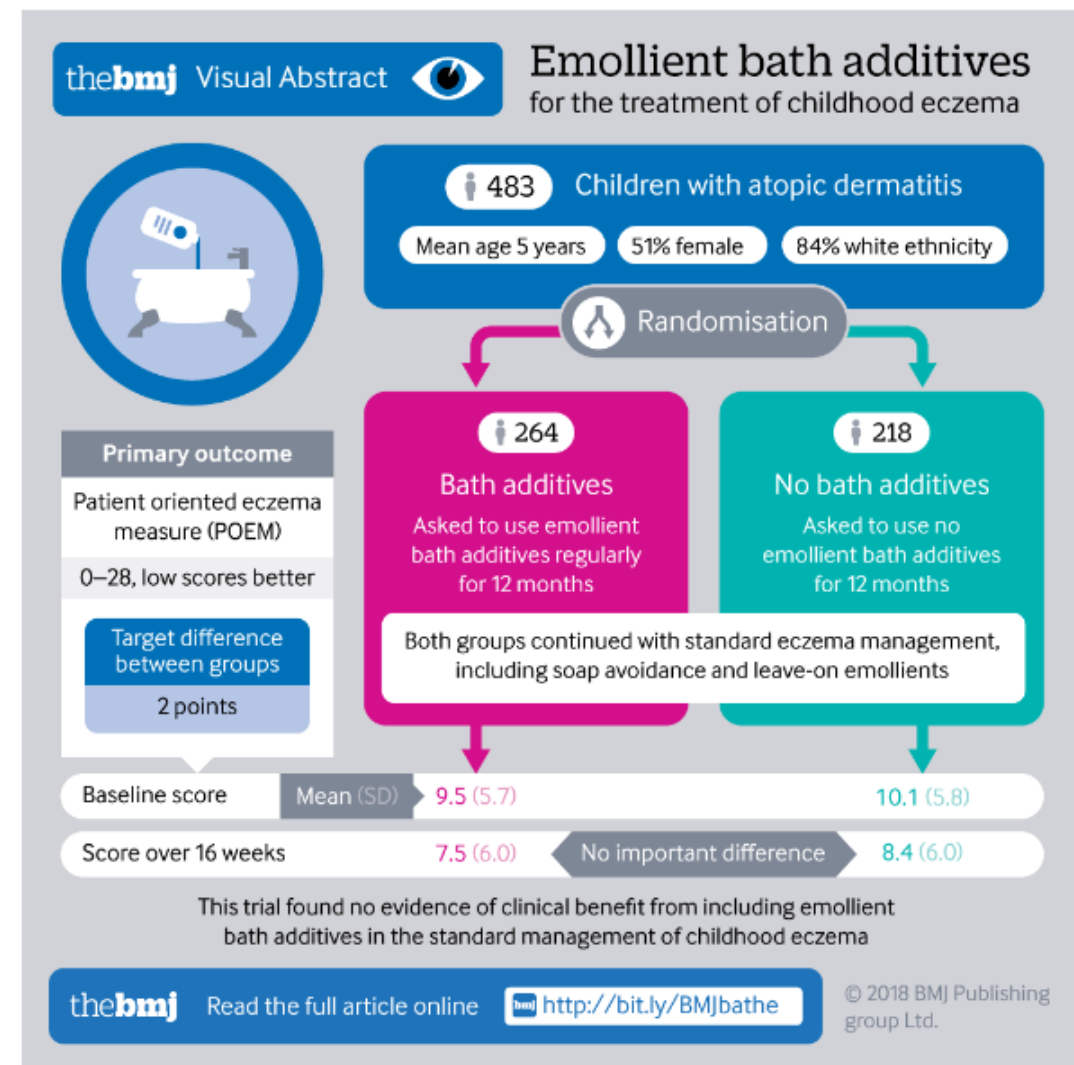
Ⓜ Author information

Abstract
The results from three online surveys of dermatologists, allergists and immunologists, and primary care physicians (PCPs) regarding routine bathing frequency recommendations for children with atopic dermatitis (AD) are presented. The results suggest that PCPs approach bathing frequency differently than specialists, with PCPs recommending daily bathing less than 50% of the time and specialists recommending daily bathing more than 50% of the time. Because there is lack of consensus, studies are needed to evaluate whether bathing frequency makes a clinical difference in the treatment of pediatric AD.

Emollient bath additives for the treatment of childhood eczema (BATHE): multicentre pragmatic parallel group randomised controlled trial of clinical and cost effectiveness

BMJ 2018 ; 361 doi: <https://doi.org/10.1136/bmj.k1332> (Published 03 May 2018)

Cite this as: BMJ 2018;361:k1332



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