

Breastfeeding, Bedsharing & SIDS

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24TH ANNUAL
INTERNATIONAL MEETING

@bfmedicine #bfmed2019



Disclosures

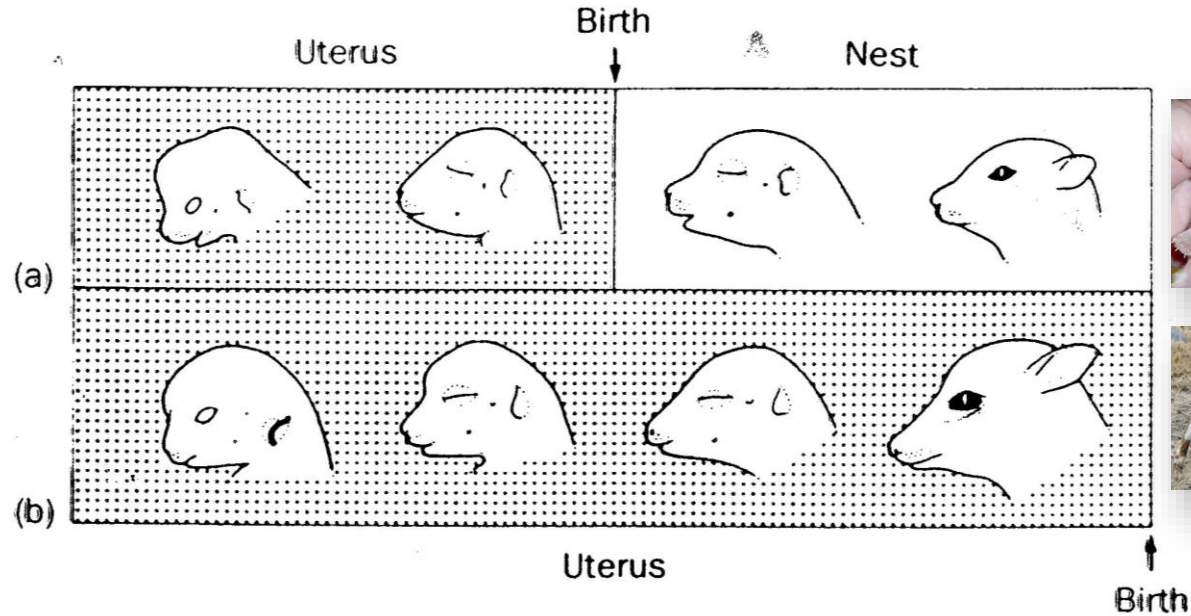
I hold several voluntary (unpaid) positions:

- Chair of Scientific Committee, & Scientific Adviser, Lullaby Trust
- Chair Scottish Government Safe Sleep Guidance Update Panel
- Infant Sleep Scientific Adviser, UNICEF UK Baby Friendly Initiative
- Consulting Editor on Infant Sleep and ERB Member Journal of Human Lactation
- Member Panel of Professional Advisers, LLLGB
- Topic specific expert for NICE SIDS & Co-sleeping CGU Committee
- Board member for International Society for Study and Prevention of Infant Deaths (ISPID)

Humans have mammal babies!



Mammal babies: altricial and precocial



Mammal babies: Cache and Carry

- Mammals with altricial infants use a cache strategy: multiple infants in a litter, develop in nest (safety & warmth), mother leaves infants to forage, feed infrequently (e.g. once or twice per day), high fat content milk
- Mammals with precocial infants use a carry/follow strategy: one infant at a time, able to walk/cling shortly after birth, remains with mother (safety & warmth) while she forages, feed frequently and on demand (e.g. hourly), low fat/high sugar content milk



Where do human new-borns fit?



- Humans produce single infants, born with well developed internal and sensory organs (see, hear, call) = precocial
- Lactation characteristics of precocial mammals: milk = low fat/high sugar, infants need to feed frequently
- Poorly developed neuro-muscular control = unable to follow or even cling because typical brain growth cannot be completed prior to birth
- Humans have 25% adult brain at birth compared with 50% for other primates etc. – they are therefore unusually neurologically undeveloped

The ecology of infant sleep



- Humans produce unusually helpless primate babies!
- “Every primate baby is designed to be physically attached to someone who will feed, protect, and care for it... they have been adapted over millions of years to expect nothing else” (Small, 1998)
- WEIRD* societies are historically and cross-culturally unusual in separating parents and infants at night – affects how we understand infant sleep.

*Western, Educated, Industrialised, Rich, Democratic “a particularly thin and rather unusual slice of humanity” – outliers on a range of human traits (Henrich et al., 2010)

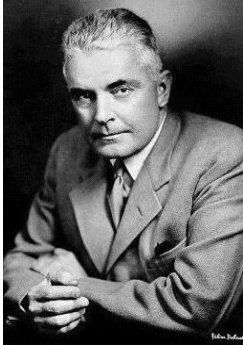
Solitary infant sleep = historically novel



“The First Born” by Yorkshire artist Fred Elwell was painted in 1918 and hangs in Ferens Gallery, Kingston-upon-Hull

- Prior to the early 20th century infant social sleep was normal practice
- “The bosom of the mother is the natural pillow of her offspring” Dr Conquest (1848)
- Dr Chavasse, in Advice to mothers (1839) recommended bed-sharing until an infant was weaned at 9 months

Expert advice



- During the 1920s John B Watson and Frederick Truby King dominated 'scientific' attitudes to infant care
- The primary discourse of child-rearing revolved around independence, self-control and self-reliance
- Watson believed that no child could have too little affection, while a good 'Truby King' baby preferred solitary confinement to human interaction
- Their influence lingers in many of the underlying assumptions about babies that we still hear today.

Hardyment, C. (1983). *Dream Babies: child care from Locke to Spock*. London, Jonathan Cape Ltd.

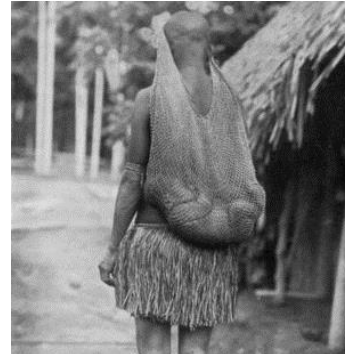
The importance of physical contact



- Harlow's experiments into the social development of infant monkeys demonstrated how physical contact, warmth and comfort was of vital importance for infant development.
- Western fashions in infant care have changed much more rapidly than human infant evolutionary biology.

Blum, D. (2002). Love at Goon Park: Harry Harlow and the Science of Affection.
Cambridge, Mass, Perseus.

Human babies expect contact day and night



Why do we try to 'cache' western babies?



“We must accept that the modern Western custom of an independent childhood sleeping pattern is unique and exceedingly rare among contemporary and past world cultures.” (Crawford, 1994: 46)

Extero-gestation (or 4th trimester)



- Human neonates complete their gestation outside of the womb
- During this period they need close contact for warmth and security, and for biological regulation
- Newborn babies have difficulty stabilizing their temperature and breathing independently
- Babies do not develop their own circadian rhythms and cannot sustain long periods of uninterrupted sleep for several months

• Sleeping in close proximity to a carer is what 'sleeping like a baby' really means.

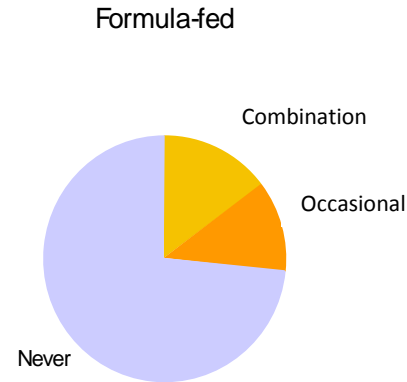
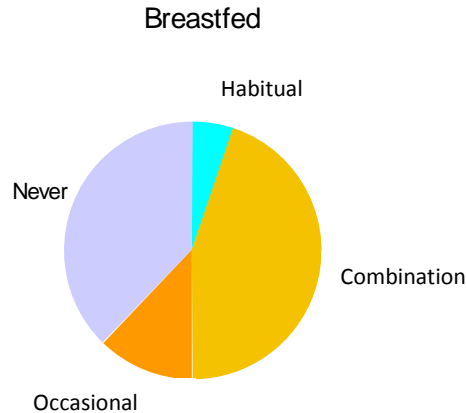
Where will the baby sleep?

- North-east UK 1995-96
- 60 families interviewed before and after birth
- New parents did not anticipate bed-sharing.
- Experienced parents 'thought it might happen'
- Although initially anxious, once they tried it 'the benefits were obvious'
- Fathers = more trepidatious than mothers
- 'Bringing the baby into bed' = intuitive strategy for breastfeeders
- Significant association between breastfeeding and bed-sharing ($p < 0.001$)

Ball et al (1999) 'Where will the baby sleep' *American Anthropologist* 101(1): 143-151

Breastfed babies bed-share

- 1998-2000 253 families with newborn infants born at N. Tees
- Sleep diaries for 7 consecutive days during 1st and 3rd month
- Semi-structured interviews at end of 1st and 3rd month
- Half of all babies (49%) bed-shared sometime during 1st 3 months



Ball, HL (2002) "Reasons to share: why parents sleep with their infants". *Journal of Reproductive and Infant Psychology*, 20 (4): 207-221.

Breastfed babies bed-sharing

	North Tees Study	CESDI Study
Bed-shared in 1st month	47.4%	47.9%
Bed-shared in 3rd month	29.4%	24.2%

- Breastfeeding and bed-sharing are very clearly intertwined:
 - 72% of infants who breastfed for 1 month or more were bed-sharers
 - 38% of formula-fed babies bed-shared

Blair PS & HL Ball (2004) "The prevalence & characteristics associated with parent-infant bed-sharing in England" *Archives of Disease in Childhood*. 89:1106-1110

Bed-sharing prevalence

Study	%	Sample	Method
Tuohy et al 1998	43	6,268 NZ families	Interviewed at clinics
Gibson et al 2000	46	410 Philadelphia families	Questionnaires
Rigda et al 2000	46	44 Australian families	Questionnaires
Ball 2002	47	253 NE UK families	Interviews / diaries
Brenner et al 2003	48	394 Inner City (DoC) families	Interviews
Willinger et al 2003	47	8453 US caregivers	NISPS telephone survey
Blair & Ball 2004	48	1095 UK CESDI control families	HV interview
Lahr et al 2005	77	1867 US families	Oregon PRAMS surveys
Bolling et al 2007	49	12,290 UK mothers	Postal survey
Hauck et al 2008	42	2300 US mothers	Questionnaires
Ateah & Hamelin 2008	72	293 Canadian families	Questionnaires
Santos et al 2009	48	2636 Brazilian families	Home interview
Kendall-Tackett et al 2010	59	4789 US mothers	Internet survey
Salm-Ward 2015	53 76	White Americans Wisconsin Black Americans Wisconsin	PRAMS survey
Salm-Ward 2017	56 82	White Americans Georgia Black Americans Georgia	PRAMS survey

Poor sleep promotes breastfeeding cessation

- “Baby was too demanding and feeding too often. Breastfeeding didn’t allow a good night’s sleep and I have a toddler as well”
- “Baby was too demanding—waking too frequently. Baby now sleeps solid 12 hours at night (on formula)”
- “Baby was unsettled on the breast and not sleeping. Now (on formula) baby not fed at night”
- “Breastfeeding was too tiring; I wanted Dad to help at night”

Ball, HL (2003) “Breastfeeding, bed-sharing & infant sleep”. Birth, 30 (3): 181-188

How do parents cope at night?



“I was getting no sleep whatsoever so after 6 weeks...I asked me mum what she done with us...and she says like do the tough love thing so I tried it and I just stuck it out and after 2 weeks she just slept all night.”



“If he’s having a night where he wants to nurse a lot I’ll put him in bed with me and I’ll just sleep and he just latches on when he wants to and it doesn’t really interrupt my sleep a great deal.”

Unwilling or unable to cope?



Parents follow one of several options:

- 1) Supplement baby's diet -- undermines breastfeeding
- 2) Sleep train -- undermines breastfeeding
- 3) Bed-share -- supports continued breastfeeding

Why parents bed-share – systematic review

- Systematic narrative synthesis to review a) reasons parents bed-share b) cultural context of bed-sharing c) implications for interventions
- Themes extracted = 1) breastfeeding, 2) comforting, 3) better/more sleep, 4) monitoring, 5) bonding/attachment, 6) environmental, 7) crying, 8) tradition, 9) disagree with danger, 10) maternal instinct.
- Breastfeeding was the most commonly cited reason for bedsharing (26 studies); bedsharing was cited as an easy and convenient way to manage frequent night-time feedings; mothers reported not having to ‘fully waken’ to breastfeed and that preservation of maternal sleep was especially important at return to work.

Salm-Ward, T. (2014) Reasons for mother-infant bed-sharing. Maternal and Child Health J. DOI 10.1007/s10995-014-1557-1.

Sleep contact on the postnatal ward

Randomised trial:

Baby in mother's bed; Side-car crib; Standalone bassinette



Ball, HL; Ward-Platt, MP et al (2006) Randomised trial of mother-infant sleep proximity on the post-natal ward: implications for breastfeeding initiation and infant safety *Archives of Disease in Childhood* 91: 1005-1010.

Breastfeeding initiation

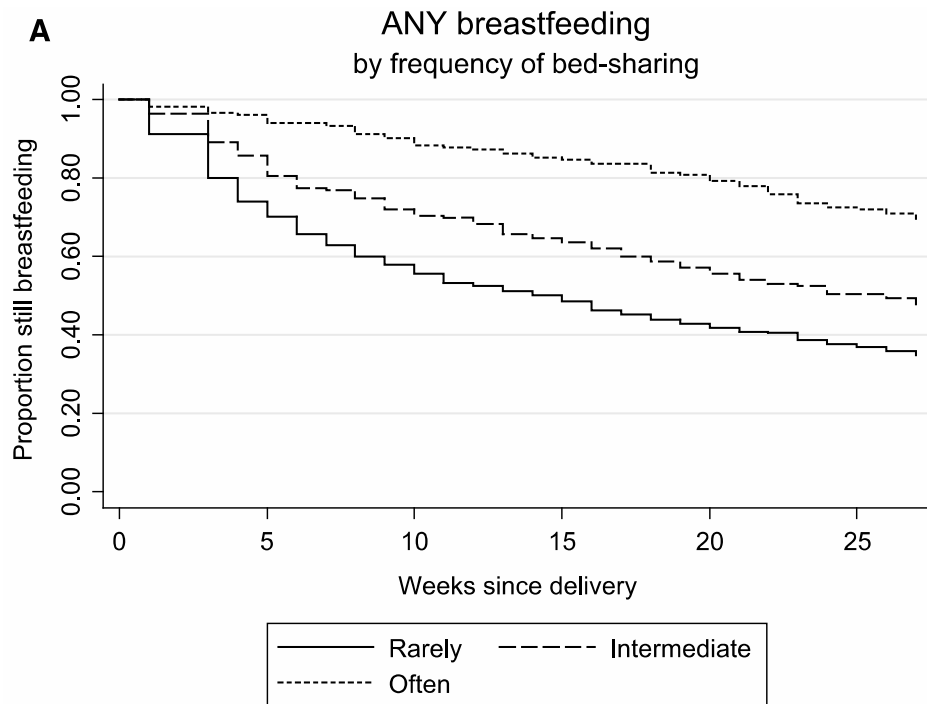
	Bed	Crib	Cot	Pair-wise t tests
Successful feeds per hour	1.69	1.80	0.79	Bed vs Crib; ns Bed vs Cot; p=0.01 Crib vs Cot; p=0.01
Feeding attempts per hour	3.01	2.78	1.15	Bed vs Crib; ns Bed vs Cot; p=0.01 Crib vs Cot; p=0.02
All feeding effort per hour	4.50	4.58	1.94	Bed vs Crib; ns Bed vs Cot; p=0.01 Crib vs Cot; p=0.00
Offer nipple per hour	5.97	5.31	3.04	Bed vs Crib; ns Bed vs Cot; p=0.02 Crib vs Cot; p=0.03

Ball, HL; Ward-Platt, MP et al (2006) Randomised trial of mother-infant sleep proximity on the post-natal ward: implications for breastfeeding initiation and infant safety *Archives of Disease in Childhood* **91**: 1005-1010.

Responsiveness to cues

Responsiveness to cues

Bed-sharing & breastfeeding



Bed-sharing is
key to
breastfeeding
success for
many women

HL. Ball, D Howel, et al.
Bed-sharing by breastfeeding
mothers: who bed-shares and
what is the relationship with
breastfeeding duration?.
Acta Paediatrica 2016;
DOI:10.1111/apa.13354

Night-time contact is important for breastfeeding

- Strong relationship between breastfeeding and infant sleep location
- The majority of mothers who breastfeed bed-share
- Bed-sharing supports night-time feeding, and helps initiate & maintain milk supply
- Helps mothers to meet both their own and their baby's needs and minimise night-time disruption
- Bed-sharing promotes breastfeeding, 'prohibiting' bed-sharing undermines breastfeeding

Ball, HL (2008) Evolutionary Paediatrics: a case study in applying Darwinian Medicine. In *Medicine and Evolution: Current Applications, Future Prospects*. Elton, Sarah & O'Higgins, Paul New York: Taylor & Francis.

How do mothers and babies bed-share?

Breastfeeding bed-sharing mother-infant pairs sleep together in a characteristic way



Ball, HL (2006) "Parent-infant bed-sharing behaviour: effects of feeding type and father presence". *Human Nature* 17(3): 301-316

Breastfeeding mother-baby bed-sharing



Ball, HL (2006) "Parent-infant bed-sharing behaviour". Human Nature 17(3): 301-316

Weighing costs and benefits



- Case-control studies link bed-sharing with infant deaths in specific circumstances
- Randomised trials link bed-sharing with greater breastfeeding
- Prohibiting bed-sharing is not benign, it carries substantial costs
- Context of sleep ecology and motivations of parents are key for ensuring safety

National Institute for Health and Care Excellence

<https://www.nice.org.uk/guidance/cg37/evidence/full-guideline-addendum-485762236>

Final

Addendum to Clinical Guideline 37, Postnatal Care

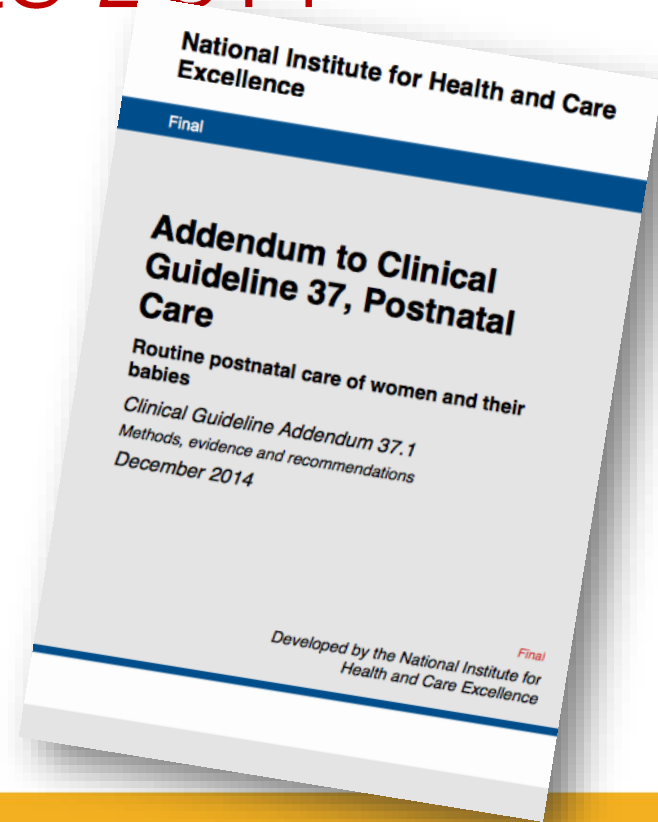
**Routine postnatal care of women and their
babies**

UK Guidance Update 2014

“When considering SIDS and co-sleeping it would be inappropriate to use the term risk as the causes of SIDS are likely to be multi-factorial and a possible causality link with co-sleeping is not clearly established.

The term association is used throughout this guideline update.

This denotes where there is a statistical relationship between SIDS and co-sleeping while acknowledging that it cannot be definitively stated that co-sleeping is a risk for SIDS.”



UK NICE guidance on SIDS & Co-sleeping 2

Press and media

Press release archive

03 December 2014

Empowering families to make informed choices on co-sleeping with babies

The National Institute for Health and Care Excellence (NICE) updates guidance to clarify the association between co-sleeping and Sudden Infant Death Syndrome (SIDS).

- More than 200 babies in England and Wales die unexpectedly in their sleep every year.
- There have been long-standing doubts over whether co-sleeping - parents or carers falling asleep with their baby on a bed, sofa or chair - is completely safe.
- Updated guidance from the National Institute for Health and Care Excellence (NICE) clarifies the association between co-sleeping and Sudden Infant Death Syndrome (SIDS) to help parents understand the potential risks.

Share

Print

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“Parents have the right to know about the association between SIDS and co-sleeping. It will help them weigh up the possible risks and benefits so that they can make a decision that is right for them.”

Susan Bewley, Professor of Complex Obstetrics at King's College London

”

Comparison of UK vs US approaches

Much overlap in content, but key differences =

- US recommendations position HCPs as advisors telling parents where and how infants should sleep
- UK recommendations position HCPs as educators, providing information to 'empower parents to make informed choices'

Beattie's (1991) Health Promotion model juxtaposes authoritative and negotiated ways of influencing health-related choices.

Back to Sleep = successful authoritative model, led to Don't Bed-share.

Push-back against 'Don't Bed-share' led to consideration of different approaches

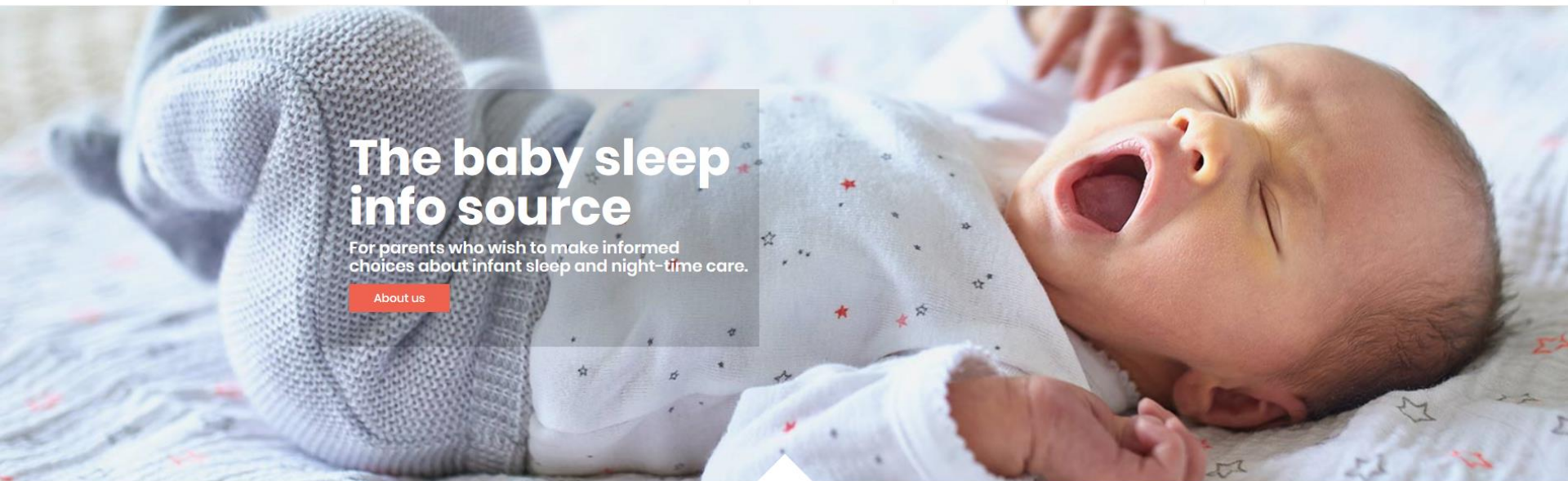
UK approach = risk minimisation, targeting resources to reduce the highest risk behaviours

US approach = risk elimination, blanket messaging across all members of population.

HL Ball (2017) The Atlantic Divide: contrasting UK and US recommendations on cosleeping & bed-sharing.
Journal of Human Lactation DOI 10.1177/0890334417713943

Talking about where babies sleep

- Bed-sharing / co-sleeping is a common practice, but often under-reported where prohibited
- Parents discover bed-sharing/co-sleeping helps settle infants, helps parents cope with new-born sleep patterns and need for contact.
- Breastfeeding mothers discover bed-sharing reduces the costs of night-feeding and help maintenance of milk supply.
- Consequently 50% or more of families sleep with their young babies deliberately / accidentally, frequently / occasionally
- **Talking about where babies sleep matters**, because parents need info on what makes sleep locations risky, and how to make them safe for babies.
- Simple 'Never Bed-share' messages prevent discussion, encourage parents to hide their behaviour, and mean practitioners do not receive appropriate training or gain experience using their professional judgement in educating families about this issue.



The baby sleep info source

For parents who wish to make informed choices about infant sleep and night-time care.

[About us](#)

www.BasisOnline.org.uk

CO-SLEEPING* AND SIDS:

A guide for health professionals

~700,000

babies are born each year in England and Wales¹

~350,000

babies will have slept together in an adult bed with one or both parents by three months, whether intended or not²

Sleeping in close contact helps babies to settle and supports breastfeeding,^{3,4,5} which in turn protects babies from **Sudden Infant Death Syndrome (SIDS)**.⁶

On any night, 22% of babies will bed-share⁹ – so 154,000 babies will be in bed with their parent tonight.²

IN 2016, 219 BABIES DIED OF SIDS IN THE UK: 0.03% OF ALL BIRTHS⁷

Previous UK data suggests:

- around half of SIDS babies die while sleeping in a cot or Moses basket.
- around half of SIDS babies die while co-sleeping. **However, 90% of these babies died in hazardous situations which are largely preventable.**^{4,8}



1 IN 3,180

The risk of SIDS for all babies in England & Wales¹



1 IN 174

The risk of SIDS while co-sleeping on a sofa^{1,9}



1 IN 174

The risk of SIDS while co-sleeping after consuming alcohol or drugs^{1,9}



1 IN 787

The risk of SIDS while co-sleeping with a regular smoker^{1,9}

IF NO BABY CO-SLEPT IN HAZARDOUS SITUATIONS, WE COULD POTENTIALLY REDUCE CO-SLEEPING SIDS DEATHS BY NEARLY 90%⁸

unicef.uk/safesleeping

*Co-sleeping: an adult and a baby sleeping together on any surface (such as a bed, chair or sofa).

† Bed-sharing: sharing a bed with one or both parents while baby and parent(s) are asleep.

‡ Using SIDS by sleeping environment from the latest case-control study conducted in England.

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Basis

Baby sleep info source



unicef
UNITED KINGDOM



THE BABY
FRIENDLY
INITIATIVE

To reduce the chance
of sudden infant death
syndrome (SIDS), always
follow safer sleep for
your baby:

Put them on their **BACK** for every sleep

In a **CLEAR FLAT SLEEP SPACE**

Keep them **SMOKE FREE** day and night



Tips for safer bedsharing

Some parents choose to share a bed with their baby.

Be aware – You should not share a bed with your baby if:

- you have recently drunk any alcohol
- you or your partner smoke
- you have taken any drugs that make you feel sleepy or less aware
- your baby was born prematurely or very small

Sofas and armchairs are always dangerous places to fall asleep with your baby – move somewhere safer if you might fall asleep

Keep pets away from the bed and do not have other children sharing the bed

Make sure baby won't fall out of bed or get trapped between the mattress and the wall

Keep pillows and adult bedding away from baby

Follow the tips if you think you might fall asleep with your baby in the bed



UK SIDS Messaging

- The key SIDS messages supported by clear evidence = back for sleep, near parents, no smoking, no drugs/alcohol, breastfeed, clear sleep space
- Parents with babies at 'high risk' for SIDS due to prenatal smoke exposure, premature birth etc. need explanation of their babies' safe sleep needs.
- Breastfeeding parents and parents from other cultures have a need for targeted information on safe bed-sharing. Emphasise planning ahead. Don't assume though that other families won't co-sleep.
- Sofa-sharing can be avoided if bed-sharing is not prohibited.

Summary

- Human infants are born with a particular set of needs that do not fit easily with adult life.
- When parents encounter frequent night-waking they often attempt to find a 'fix'.
- Public perceptions = formula helps babies to sleep; some mothers now challenge this idea.
- Huge advances have been made in understanding the relationship between breastfeeding & sleeping, and consequences such as mothers' ability to cope with night-time care.
- Mothers use bed-sharing as a coping strategy for night nursing and sleep disturbance – associated with effective initiation & greater breastfeeding duration.
- Breastfeeding mothers and babies sleep together in a characteristic (instinctive?) way.