

A national publication for child and family health nurses and other professionals

Sleep

There is much received wisdom on infant sleep and new parents will find that just about everyone they speak to has an opinion – where, how much, how often. For parents, understanding infant sleep and adapting to new patterns and behaviours can be one of the biggest challenges in the early years. Unsurprisingly, sleep is one of the main concerns presented by parents to child and family health nurses. By giving parents information about sleep, they can be better prepared to promote and support healthy sleep patterns in their infants (Middlemiss, 2004).

Understanding sleep

During sleep we all go through cycles of deep and light sleep. An adult's sleep cycle lasts around 90 minutes, but an infant's cycle is shorter, lasting 20 to 50 minutes. Deep sleep is quiet sleep; babies are mostly still and breathe evenly, but will sometimes jerk or startle. During light, active sleep, babies look restless, groan, sometimes open their eyes and even wake up completely.

The amount of time we spend in each phase of sleep varies depending on age. Newborns spend about half their sleeping time in a light, active sleep, but by three years old, only one third of sleep time is active. This continues to reduce as children grow older.

Understanding the physiological basics of sleep – cycles, patterns, phases and how much we need at different ages – can help health professionals and parents make better sense of infant sleep behaviours.

For example, frequent night waking can be a problem for some parents but is in fact a normal part of an infant's sleep cycle. There's even an argument that night waking serves protective functions by allowing frequent feeding and creating the opportunity for emotional reconnection and brain stimulation. It may be helpful for parents to focus on improving their infant's ability to self-settle rather than on the frequent waking.

What to expect at different ages

Each child's sleep behaviours and patterns will be different. Newborns' sleep-wake cycles are largely dependent on whether the infant is hungry or full; in older infants, daily rhythms and environmental factors such as light and noise play a much larger role in sleep patterns. As children grow, there is gradual change to their sleep patterns and as these changes occur, it can mean that parents will experience weeks of mixed sleep patterns as children adjust.

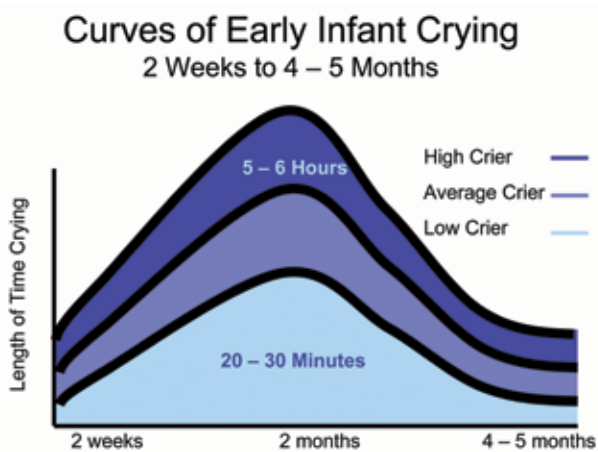
The following table is a guide to children's sleep, from newborns to preschoolers. It's important to note that each baby will have his or her own 'night' hours.

Age	'Day' sleeps	'Night' sleeps
Newborn	16 – 18 hours sleep in a 24-hour period. Each sleep lasts 2 – 4 hours.	
2 – 6 months	2 – 3 sleeps, for up to two hours each. Some babies just 'cat nap' for one sleep cycle.	Commonly wake once or more during the night.
7 – 12 months	2 – 3 hours total, usually as a morning sleep and an afternoon sleep.	From between 6pm and 10pm, until 5am or later. One night time feed is common. By eight months, 60 – 70 per cent of infants are able to settle themselves back to sleep.
Toddlers (12 months – 3 years)	12 – 13 hours sleep in a 24-hour period. At around 12 months, night waking may increase due to separation anxiety which peaks at 18 – 24 months. At around 18 months, naps are likely to decrease from two naps to one, taken at a time that best suits the child.	
Preschool (3 – 5 years)	11 – 12 hours sleep in a 24-hour period. Day naps decrease from one to none.	

Crying and sleep

Crying that is difficult to console in the early weeks and months of an infant's life is part of normal behavioural development. While these early cries can be frustrating, exhausting and demoralising for parents, it can be reassuring to know that it is normal and will pass.

Barr's crying curve shows that the overall amount of crying per day (fussing, crying and inconsolable crying combined) tends to increase week by week, peak during the second month, and then recede to more stable and lower levels by the fourth or fifth month (Barr, 2006). At its peak, crying lasts on average, around 2½ hours a day, but can be much longer for some babies.



(National Center on Shaken Baby Syndrome)

Other properties that are typical, and probably unique in the first months of life, include crying bouts:

- that are unexpected, unpredictable and unrelated to anything that is going on in the environment
- that are resistant to soothing, or inconsolable
- where the infant appears to be in pain, even when they are not
- that are longer than at any other time, lasting 35 to 40 minutes on average, and sometimes lasting one to two hours or more
- that cluster in the late afternoon and evening.

(Barr, 2006)

Sleep practices

Approaches to sleep

There are a number of different beliefs and approaches to sleep practices that are influenced by parents' general parenting style. In a recent report on unsettled infant behaviour, the Australian Research Alliance for Children and Youth (ARACY) defined two parenting styles that sit on a spectrum – 'intuitive parenting' and 'infant behaviour management' (ARACY, 2011).

The **intuitive parenting position** is considered to be based on reading infant behavioural cues and adjusting responsiveness accordingly. This position has an understanding that infant sleep improves over time and that crying will reduce with active comforting strategies. For parents who are interested in following an intuitive parenting style, strategies may include:

- Encouraging parents to use their instincts rather than follow strict rules.
- Trying to interpret the baby's cries and other cues to understand and respond appropriately to specific needs.
- Providing active comforting including rocking and 'wearing' the baby in a sling or pouch.
- 'Parenting' the baby to sleep, if required and for as long as the baby needs it.
- Co-sleeping with the baby, including sharing a bed, for as long as needed (ARACY, 2011).

Further along the spectrum is the **infant behaviour management** parenting style. This holds that unsettled infant behaviour is not usually related to illness or otherwise easily explained and because it may cause significant problems for families, it needs to be managed. Parents who are interested in this approach can, after excluding any health-related explanations for the unsettled behaviour, follow active strategies to reduce unsustainable sleep associations and support their baby to learn to settle to sleep. 'Infant behaviour management' strategies may include:

- Teaching parents about normal infant developmental stages and how to recognise and respond to tired cues.
- Separating feeding from sleeping.
- Putting the baby to bed while sleepy, but not yet completely asleep.
- Reducing unsustainable sleep associations such as patting a baby off to sleep.

- Using rhythmic patting to quieten the baby (but not to the point of sleep).
- Providing the baby with short opportunities to learn to self-soothe.
- Resettling the baby to sleep if s/he awakens after one sleep cycle (ARACY, 2011).

Child and family health nurses can help parents identify where they would like to sit on this spectrum by considering the parents' own values and beliefs on parenting and childcare.

Safe sleeping

It's important to acknowledge that while there is no one 'right' way for a baby to sleep or be settled, safety should always be the top priority.

Five safe sleeping messages for health professionals from SIDS and Kids:

1. Sleep baby on the back from birth, not on the tummy or side.
2. Sleep baby with face uncovered (no doonas, pillows, lamb's wool, bumpers or soft toys).
3. Avoid exposing babies to tobacco smoke before and after birth.
4. Provide a safe sleeping environment (safe cot, safe mattress, safe bedding).
5. Sleep baby in their own safe sleeping environment next to the parent's bed for the first 6 to 12 months of life i.e. in a cot, bassinet or other separate sleep surface.

Co-sleeping and bed sharing

Our beliefs around co-sleeping may be unknowingly biased toward traditional Euro-Australian views of child rearing, including those about sleep, bedtime and night time behaviour. In many non-Western countries, it is common for parents to sleep with their infant and increasingly, Australian parents are bringing their baby into their own bed to sleep. It's important for health professionals to be aware of different cultural values when giving advice about sleep while keeping safety front-of-mind.

SIDS and Kids advises parents to sleep with their infant in close proximity but on a different sleep surface. SIDS and Kids acknowledge, however, that current evidence shows that it is the *circumstances* in which bed-sharing occurs in Western sleeping environments that contributes to increased risk of sudden infant death, not the act of bed sharing itself.

SIDS and Kids advise it is **not** safe to share a sleeping surface with a baby if either parent is:

- a smoker
- under the influence of drugs that cause sedation or alcohol
- excessively tired.

It is also not advisable for parents to share their bed if one or both parents are obese.

To avoid the risk of any bedding covering an infant's face, sleep them in an infant sleeping bag or under lightweight blankets; doonas, pillows and other soft items should be removed from around the baby. For the same reason, the baby should sleep beside only one parent (SIDS and Kids, 2011). If routinely bed-sharing, McKenna recommends placing the bed's mattress and base in the centre of the room, without a bed frame attached, to eliminate dangerous spaces or gaps that babies can slip into (McKenna, 2000).

It's also important for child and family health nurses to understand why co-sleeping or bed sharing is practised. Some families will engage in co-sleeping to manage problematic sleeping (reactive co-sleeping), rather than based on a philosophical choice. Others will co-sleep for cultural reasons, believing in the protective benefits of co-sleeping and feel it is detrimental for infants to sleep apart from their mother.

Sleep problems

Between 36 per cent and 45 per cent of Australian parents report a problem with their infant's sleep in the second six months of life (Lam, Hiscock and Wake, 2003).

The ARACY unsettled infant behaviour report highlights that there is a lack of clarity around whether unsettled infant behaviours should be seen as 'normal' or distinct problematic conditions. However, there is a general understanding that, regardless of how they're defined, unsettled behaviours can undermine parent confidence, health and wellbeing (ARACY, 2011).

When is sleeping a problem?

Infant sleep problems are usually defined as difficulties with sleep initiation – persistent crying when put to bed or being dependent on suckling, rocking, being driven in the car or other associations to go to sleep. They also include difficulties with sleep maintenance including short daytime sleeps, frequent overnight waking, and

resistance to re-settling if awake after a short sleep (ARACY, 2011).

The most common sleep problems are night waking and settling.

Once the infant is old enough to have an established sleep routine, **severe night waking** includes one or more of the following:

- waking three or more times a night
- staying awake for more than 20 minutes after waking
- going into the parent's bed.

To be defined as severe, these patterns would occur five or more times a week over the course of three months.

(Middlemiss, 2004 and CCCH, 2006)

A **settling problem** is defined as taking more than 20 minutes to settle on five or more nights a week over at least two months (CCCH, 2006).

Regardless of whether a child meets clinical criteria for a sleep problem, parent concern about their child's sleep is a valid reason for discussing their concerns with a professional (CCCH, 2006).

Characteristics of typical sleep issues

Newborns:

- Day/night reversal of sleep
- Irregular and/or no distinct sleep patterns.

Some parents might misinterpret their infant's grimacing, smiling, sucking, twitches and jerks as restless or disturbed sleep, but these are in fact normal signs of active sleep.

Infants (2 – 12 months):

- Inability to self-soothe
- Signalling to a parent by crying when awake (object permanence)
- Variation in the number of night time wakings
- Reliance on night feeds or dummies to fall back to sleep.

During this time, anxiety over separation from a parent can increase an infant's resistance to going to sleep and the frequency of night waking. Also during this first year, infants will often 'cat nap' during the day and sleep for just one sleep cycle.

Toddlers (12 months – 3 years):

- Inability to self-soothe/presence of parent until child is asleep
- Transitioning from cot/parent's bed to own bed
- Reliance on bedtime and night time feeds to fall asleep
- Inconsistent bedtime routines
- Frequent rising with a range of excuses after being settled ('curtain calls')
- Increased night waking because of separation issues
- Increased interest in/reliance on comforting objects or toys.

Preschoolers (3 – 5 years):

- Increased resistance to bedtime
- Persistent co-sleeping
- Inconsistent routines
- Increased night time fears due to further development of imagination and exposure to fantasy.

During this time, many children will stop napping during the day. This can mean different routines on different days while the nap is phased out.

Sharing practical information with parents can help them to develop positive sleep behaviours in their infants and to establish safe sleeping practices that suit their own circumstances and priorities. A greater awareness of sleep patterns and the different strategies that promote good sleeping behaviours can also support parents through periods where sleeping is a problem, and in some cases alleviate or prevent severe sleep problems.

Sleep and parent wellbeing

Parent health and wellbeing can often take a back seat when a new baby arrives. The irregular sleep patterns that are common for infants and particularly newborns can make it difficult for parents to get adequate sleep and rest, which in turn can affect parents' health and wellbeing. Striking a balance is difficult for everyone, but to give children the best start in life, parents need to look after their own health and wellbeing as well as their child's.

The ripple effect

The relationship between parent sleep and infant sleep is complex. Poor infant sleep can influence a parent's behaviour and similarly, how a parent is feeling can influence baby's sleep. Unsettled infant behaviour places great demands on parents' capacity for emotional self-regulation and empathy (ARACY, 2011).

The impact of sleep problems can include:

- diminished confidence and feelings of helplessness
- poorer mother-infant relationships
- poorer maternal mental and physical health
- severe maternal exhaustion
- feelings of depression, frustration, anger
- marital dissatisfaction and tension
- poorer quality infant care-giving
- infant abuse, in the most serious cases.

(ARACY, 2011)

The association between maternal anxiety and depression and infant distress is not clear-cut. Maternal anxiety and depression might reduce a mother's ability to 'tune in' to her baby; however, the mother-infant relationship is dynamic and reciprocal. As such, it is not possible to confidently assert whether maternal depression precedes or is a consequence of excessive crying, or both (ARACY, 2011).

What we do know is that fatigue is widespread among parents, and particularly among mothers of newborns. This is often normalised or trivialised despite the adverse impact it has on normal daily functioning (Milligan, Lenz, Parks, Pugh and Kitzman, 1996 as cited in ARACY, 2011). A 2008 study by the Parenting Research Centre found that:

- Parents of young children reported moderate to high levels of fatigue.
- More than 70 per cent of parents found their tiredness gets in the way of them being the parent they want to be.
- High levels of fatigue were associated with low parenting warmth (showing affection), hostile parenting (getting angry and frustrated) and low parental involvement in play and learning activities.
- High levels of fatigue were also associated with high parenting stress and low feelings of effectiveness and satisfaction in the parenting role.
- Poor diet and exercise, ineffective coping strategies, lack of social support and poor sleep quality were associated with high levels of fatigue in parents.

(Giallo, Wade, Cooklin and Rose, 2008)

While it's inevitable that parents' health and wellbeing is affected during the first months and years of an infant's life, it's important to recognise the importance of parent health for the parent and child alike.

Strategies to help parents

Many parents will need help to find a balance between the needs of their young child and looking after their own health. The more parents understand infant sleep, the better prepared they can be to manage sleep, feel more in control and be better equipped to take care of their own health and wellbeing.

Developing good sleep and rest routines

Settling and sleep do not always come easily, however a positive, consistent sleep routine is central to the establishment of healthy infant sleeping behaviours. A regular routine can also benefit parents by helping them sleep and rest regularly and by reducing negative, unsustainable settling habits.

A parent's capacity to maintain predictable routines and to soothe is thought to be closely related to the development of good infant sleep habits in the first year of life (Sadeh et al. as cited in ARACY, 2011). However, all kinds of things can limit a parent's ability to care for their child, and we know that poor infant sleep can be a very negative experience for families.

All families will have different routines and settling techniques, and it's important that families do what works best for them. Child and family health nurses can help parents to establish good sleep and rest routines and phase out unsustainable sleep habits by talking about what a consistent approach to settling an infant might involve. Talking to parents about how they set the mood for sleeping can be a good opportunity to give tips on the importance of reducing stimulation (dimming the lights, talking and singing quietly) and creating a safe and nurturing environment for sleep. Phasing out unsustainable sleep habits requires planning and patience – it can take anywhere from 3 – 14 days to change a sleep pattern (Raising Children Network, 2010).

Recognising and responding to baby cues

Many parents will recognise some of their baby's body language and cries as a signal to change activity or sleep. Recognising and responding to these cues can give parents a greater sense that they understand their baby's needs. New and experienced parents alike may not be aware of less obvious signs and cues, including:

jerking arms/legs	closing fists
fluttering eyelids	frowning
arching back	staring
stiffness	sucking on fingers
difficulty focusing (even appearing cross-eyed)	rubbing eyes (for infants over four months).
For older children, parents can watch for:	
clumsiness	demands for constant attention
clinginess	boredom with toys
fussiness with food	tears.

Managing sleep and parent wellbeing is a tricky task, even for experienced parents. Some parents will need simple and practical tips; others might need emotional advice and support. A supportive network of family and friends, as well as access to health professionals and services, is essential.

A list of resources for parents is listed on the accompanying Fact Sheet.

Community Paediatric Review

Community Paediatric Review supports child and family health nurses in caring for children and their families through the provision of evidence-based information in relation to current health issues.

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Centre for Community Child Health
The Royal Children's Hospital
Melbourne
50 Flemington Road
Parkville 3052
Victoria, Australia
Telephone: +61 3 9345 7085
email: enquiries.ccch@rch.org.au
www.rch.org.au/ccch

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