CENTRE FOR
Community
Child Health

Settling and Sleep Problems

Practice Resource

Section 2: What works? (only)

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Murdoch Childrens Research Institute

ROYAL CHILDREN'S HOSPITAL

Practice Resource: Settling and Sleep Problems

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Glossary

Active sleep	Sleep involving head and muscle movements that is similar to the stage of sleep with rapid eye movements in adults.
Behavioural interventions	Specific strategies for addressing sleep problems that involve dealing with the child when awake, such as establishing an effective nightly routine or regulating the child's naps.
Informational interventions	Provision of information about ways to address settling or sleep problems
Medical interventions	Use of medication, either trimazeprazine or niaprazine, to treat sleep problems.
Mixed interventions	Use of medication along with a behavioural strategy.
Quiet sleep	Sleep involving little or no movement, similar to the adult stage of non-rapid eye movement sleep.
Self soothing	Infant's ability to manage going to sleep and going back to sleep after waking without intervention.
Sleep consolidation	Period of sleep without waking from midnight to 5:00 a.m. or a continuous sleep episode without the need for intervention from the child's bedtime through to early morning.
Settling problems	Refusing to or taking a long time to settle, or tantrums at sleep times.
Waking problems	Waking frequently, waking for long periods, or both.

Refer to Appendix 5 for a glossary of terms related to research methodology terminology.

Recommended strategies

Sleep problems in children from birth to four years can be categorised into two groups:

1. Sleep settling problems
2. Night waking

A range of treatments for settling and night waking problems in children over six months old include the following:

- *Behavioural interventions* are strategies for teaching children to fall asleep on their own rather than with the assistance of an adult.
- *Medical interventions* involve the use of either trimazeprazine or niaprazine at night to treat sleep problems.
- *Mixed interventions* involve the use of medication along with a behavioural strategy.
- *Informational interventions* include the provision of a non-directive informational booklet or advice on sleep, with or without support visits.

Behavioural interventions have been found to be the most successful intervention. Research evidence has shown behavioural interventions most likely to be effective include: positive routine, controlled comforting (or controlled crying), systematic ignoring, and scheduled waking. Camping out is an additional intervention which has been researched. A summary of the research leading to these conclusions is included in Section 3 “What the research shows”.

Behavioural interventions have been found to be the most successful intervention.

Understanding behavioural interventions

Key points

- Behavioural interventions are generally used for children over six months of age. Younger infants may still require night feeds, may still be establishing a mature sleep-wake rhythm and may not respond to behavioural management techniques.
- Many strategies fit under the category of behavioural intervention. Each involves teaching the child to fall asleep without parental or carer effort.
- Behavioural interventions involve practitioners or health professionals working with a family to develop an individualised sleep management plan with appropriate strategies, supporting them to carry out the strategies, and providing advice about related issues such as bedtime routines, daytime sleeps and practices that may contribute to sleep problems.
- Some behavioural interventions may be at odds with a parent's or carer's natural way of relating to a child. One example is controlled comforting, which requires that the adult leave the child to cry, when the adult's inclination may be to always to pick up and console a crying child. Generally parents and carers must be comfortable with the strategy in order for it to be effective.
- An underlying assumption behind behavioural interventions is that the way children are settled to sleep will become their preferred way to return to sleep after waking naturally. For example, an infant who falls to sleep in a parent's or carer's arms is likely to want to return there to be settled if he or she wakes during the night. The aim of behavioural intervention is to help a child 'unlearn' problematic settling behaviour and replace it with more constructive behaviour (that is, falling to sleep without the help of an adult).

What you can do

There are a range of strategies that could be undertaken to support parents to address settling and sleeping issues, these include:

- Positive routine
- Controlled comforting
- Systematic ignoring
- Scheduled waking
- Camping out

In addition to choosing a technique with a parent or carer, the professional needs to ensure that the infant has a good bedtime routine and is getting enough sleep during the day.

Following is more detail about each of these strategies.

Positive routine

Positive routine is a strategy for dealing with toddlers and pre-school aged children who show resistance to settling once they are put to bed at night.

Before using this strategy, information is collected about a child's typical sleep routine and used to select an ideal bedtime for the child (based on when he or she naturally falls asleep).

The positive routine consists of:

- Initially involving the child in a series of pleasurable activities in the 20-minute period before bedtime and praising the child after each activity.
- At the end of the 20-minute 'positive period' the adult tells the child to go to sleep. If the child resists, the adult tells the child firmly that it's time to go to bed.
- The final step of the positive routine involves bringing the child's bedtime forward. This begins a week after introducing the 'positive period' and involves shortening the 'positive period' by five to ten minutes each week until the child has an acceptable bedtime.

The length of time required for the positive routine to work varies according to how quickly the 'positive period' can be successfully shortened each week. Typically, the 'positive period' needs to be shortened gradually rather than quickly and the routine takes a few weeks to be effective.

Controlled comforting

Controlled comforting involves spending only a short time settling the infant and then leaving him or her to settle alone.

The parent or carer responds to crying by looking in on the infant but not taking him or her out of the cot (or bed), and intervals for looking in are gradually increased.

The following routine for controlled comforting has a strong basis in research:

- When settling the infant, the adult either talks to or pats the infant for one minute only.
- As soon as the infant is quiet, or after one minute, the adult leaves the room.
- If the infant starts to cry, the adult waits a set amount of time before going in (perhaps two minutes at first).
- The infant is left for intervals that slowly increase in length – for example, initially 2 minutes, then 2-minute increments, or 5-minute increments if the adult can manage longer intervals.
- If the infant is still crying after each interval, the adult returns and talks to or pats the infant for one minute or until the infant is quiet (depending on adult's preference), then leaves again.
- The process is continued until the infant falls asleep without intervention.

While some people may have concerns about the potential harm of this approach for an infant, there is no evidence to suggest that psychological or physical harm comes from using this approach, and there is much evidence to suggest its effectiveness.

Some tips for using this approach include:

- Use a clock to time intervals,
- Turn off infant monitors,
- Don't wait outside the infant's room, and
- Ensure that the adult has no important commitments for the first few days after starting the intervention.

Controlled comforting should be accompanied by an appropriate predictable bedtime routine (for example, meal, bath, feed, quiet play for 15-20 minutes, into bedroom, brief cuddle and kiss, and into bed) and daytime naps.

With controlled comforting, effects are obtained quickly, typically after between three and fourteen days.

… there is no evidence to suggest that psychological or physical harm comes from using this approach (controlled comforting)

Systematic ignoring

Systematic ignoring (also called extinction) is similar to controlled comforting but is a stricter approach.

If the child is crying:

- The parent or carer goes to the room to check that the child is not sick or in need of a nappy change, but does not soothe or interact with the child. The adult then leaves and does not return for the time that it takes the child to stop crying.
- Further crying episodes through the night are responded to using the same approach.

Systematic ignoring has been successfully used to reduce night waking but obviously requires a tough approach from the adult, who needs to be comfortable leaving the child to cry for what could be long periods of time.

Systematic ignoring involves a great deal of energy and commitment from the adult, as the approach is used over an eight-week period.

Success with systematic ignoring has predominantly been with toddlers and pre-school aged children rather than infants.

Scheduled waking

Scheduled waking is used most commonly with children who have prolonged and persistent night terrors.

It involves:

- Waking a child as much as an hour before she or he is likely to spontaneously wake, and then re-settling the child using the regular bedtime routine.
- Before using this approach the parent or carer must collect information about a child's typical sleep routine in order to know when to wake the child.

While the approach is suited to children having problems with night terrors, it has been used effectively with children who are having problems with night waking.

Camping out

Camping out is similar to controlled comforting, as the child is left to settle alone and is not removed from the cot or bed when he or she cries. Camping out is a gentler technique, however, as the parent or carer remains in the room with the child in a bed or chair next to the child.

Camping out involves:

- The adult sitting or lying next to the child and patting or stroking him or her off to sleep.
- When the child is used to falling asleep like this (usually after three nights), the parent or carer remains by the cot until the child falls asleep but no longer strokes or touches.
- When the child becomes used to this routine (usually after three nights), the parent or carer moves the chair or bed a foot away and stays until the child falls asleep.
- After this point the bed or chair is gradually moved to the doorway and out of the room over a period of one to three weeks.

Camping out takes longer than controlled comforting to work and therefore requires more energy, stamina and persistence by the adult.

Information for parents

Parents can find additional information on infant and toddler sleep patterns on the following sites:

- BBC Parenting: Sleeping by Heather Welford
  www.bbc.co.uk/parenting/your_kids/infants_sleeping.shtml

- BBC Parenting: Sleep problems by Eileen Hayes
  www.bbc.co.uk/parenting/your_kids/toddlers_sleeping1.shtml

The following site has helpful tips and strategies for dealing with sleep problems:

- Sleeping like a baby: About Infants' Sleep by Avi Sadeh
  www.tau.ac.il/~sadeh/infant/about_sleep.html

For information about sleep:

- The Raising Children website is a one-stop resource for parenting information with all the basics on raising children 0-8 years, quality-assured by Australian experts, and supported by the Australian Government.
  www.raisingchildren.net.au
  For tips and strategies:
  www.raisingchildren.net.au/articles/about_this_guide.html/context/613

Key Messages for Professionals

Understanding sleep

- **Sleep requirements vary greatly depending on age.** Generally, newborns require 16-20 hours of sleep every 24 hours, infants (2-12 months) 2-4.5 hours of sleep during the day and 9-12 hours of sleep at night, and toddlers 12-13 hours of sleep over 24 hours.
- **Sleep habits develop as a result of nature and nurture.** Sleep habits are learned behaviours that are affected by biological and genetic factors and developmental changes.
- **The sleep cycles and stages change as a child ages.** An infant's first year of sleep is made up of active and quiet sleep. These stages of sleep are similar to the adult stages of rapid eye movement and non-rapid eye movement sleep. Active sleep involves head and muscle movements, while quiet sleep involves little or no movement.

Sleep and settling problems

Sleep problems, including settling problems as well as night waking, are common in both infants and toddlers. At least 36-45 per cent of children aged six months to one year are still waking at night to an extent that parents find problematic, while 25-30 per cent of toddlers have sleep problems. Although sleep problems are less common in pre-school aged children, 15-30 per cent have difficulties falling asleep and wake at night.

Helping parents deal with sleep and settling problems

- Advice booklets on sleep, with or without support visits, are not effective in addressing sleep problems.
- Behavioural interventions can help children learn to go to sleep initially and after waking.
- A range of specific behavioural interventions for children 6 months and older have good support for their effectiveness. These include interventions such as controlled comforting, camping out, and positive routine.
- There is no strong research evidence that one technique is better than others.
- It is recommended that a decision about what strategies a parent will use should be based on what suits best the parenting style and the family's cultural background.
- Where a behavioural strategy is recommended, a sleep management plan should be developed, ensuring that parents understand how to use the strategy, and they should have information about bedtime routines, daytime sleeps and practices that may contribute to sleep problems.
- Further research is needed on the effectiveness of medication and combining medication with a behavioural strategy before these methods can be recommended.

Key Messages for Managers

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Sleep problems

Sleep problems, including settling problems as well as night waking, are common in both infants and toddlers. At least 36-45 per cent of children aged six months to one year are still waking at night to an extent that parents find problematic, while 25-30 per cent of toddlers have sleep problems. Although sleep problems are less common in pre-school aged children, 15-30 per cent have difficulties falling asleep and wake at night.

Helping parents deal with sleep problems

- Behavioural interventions can be successfully used to improve settling and waking problems in infants and toddlers.
- Advice booklets on sleep, with or without support visits, are not effective in addressing sleep problems.
- A range of specific behavioural interventions for children 6 months and older have good support for their effectiveness. These include interventions such as controlled comforting, camping out, and positive routine.
- Information sessions or short courses could be run at early childhood facilities on these successful behavioural interventions. As part of the sessions, facilitators should educate parents on how to choose an appropriate strategy, how to implement the chosen strategy, as well as providing advice regarding bedtime routines, daytime sleeps and habits that reinforce sleep problems.
- Since most parents of children with sleep problems suffer from lower well-being levels themselves, behavioural intervention sessions run with groups are likely to provide much needed support for parents.
- A number of families will still require referral to a practitioner for more intensive support.