



ROYAL CHILDRENS HOSPITAL  
WYETH HEALTH AND NUTRITION

Volume 2, Number 1 ♦ Autumn 1993



A National Publication for Nurses and Other Health Professionals

# Community

## P A E D I A T R I C S

Produced by the Department of Ambulatory Paediatrics, Royal Children's Hospital, Melbourne  
Editors - Frank Oberklaid, FRACP and Michele Meehan, RN, MCHN. Sponsored by Wyeth - Partners in Infant Nutrition.

## Management of Sleep Problems

Most new parents have the expectation that within weeks to months of the birth of their new baby the infant will be sleeping soundly through the night and that peace will rein. For many families however this expectation is soon shattered. Sleep problems are exceedingly common through the first few years of life. In fact, most infants do not establish predominantly nocturnal sleeping patterns until three months of age, and it is not until six months of age that the majority are sleeping through the night. About one third of all Australian infants and toddlers continue to wake at least once each night, while over half of toddlers and preschoolers resist going to bed.

Although there are multiple causes of sleep difficulty in early childhood, the vast majority of "abnormal" sleep rhythms are learned behaviours. On rare occasions, medical factors may be responsible for sleep problems. Ear infections, upper airway obstruction due to enlarged tonsils or adenoids, gastro-oesophageal reflux, raised intracranial pressure, and food allergies such as cow's milk intolerance all need to be considered in the differential diagnosis, and for this reason an examination by a doctor is necessary. Psychosocial stresses such as family conflict, parental separation, moving house, or major disruptions to routine can also trigger sleep problems. However, serious psychological problems in children with sleep disturbance are quite uncommon. Supportive counselling along with behaviour modification techniques can be successful in ameliorating sleep problems in the vast majority of cases.

Incidence of Sleep Problems	age 1 %	age 2 %	age 3 %	age 4 %
Resists going to bed	-	70	46	56
Takes > 30 mins to fall asleep	26	43	61	69
One or more "curtain calls"	14	26	42	49
Wakes once or more / night	29	28	33	29
Wakes at least once / week	57	57	66	65

The two major categories of sleep disturbance reported by parents are difficulty going to bed, and frequent waking through the night. The mere existence of these problems however does not mean that intervention is mandatory, but in our experience children are more settled and content if their sleep patterns can be "normalised". Parents should be advised not to commence a behavioural program until they feel absolutely ready to give this a sustained commitment for 2 weeks. We suggest circling a start date on the calendar, and selecting a 2 week period during which there are no major disruptions to routine. Until parents are ready to intervene actively, they should do whatever is easier for them, even if this means letting the child stay up and fall asleep in front of the TV and/or sleep in the parental bed. ▶

## DIFFICULTY GOING TO BED



Excessive day-time naps, as well as late afternoon naps, can interfere with the child's ability and willingness to drop off to sleep in the evening. Most children require a single nap after lunch between 1 and 3 years of age, yet considerable individual variability exists. Day-time naps may need to be actively restricted or edged back to earlier in the day so that the young child is sufficiently sleepy at bedtime.

A bedtime temporarily later than that with which the parents might feel comfortable should initially be set; once the child is settling quickly, the bedtime can be slowly moved back to an ear-

lier time to suit the parent's schedule.

A strict pre-bedtime ritual needs to be developed, so that the child moves through the same sequence of activities in the same order each night. For children over 2, pictorial charts which depict this sequence can be drawn up, with the child or parent placing a tick on the chart after each activity has been completed. For example, a typical routine sequence might involve dinner, play, TV, bath, snack, brush teeth, toilet, story, bed. These charts and routines help move the child towards bedtime.

Once the designated bedtime arrives, the child should be told "it's bedtime now", farewelled by other family members, and taken into his/her bedroom. A night light or bedside lamp should be switched on and the child should be placed in bed with a transitional object such as a fur toy. Soft music on a tape can also be included as part of this bedtime ritual. The child should be kissed goodnight, and the parents should leave the room within 1 to 2 minutes. For children who have difficulties settling, storytime is best completed before the parent and child enter the bedroom. Above all, it is imperative that the child be put to bed awake rather than nursed to sleep in the parent's arms and placed in bed already asleep. It is also inappropriate to put the young child down to bed with a bottle. Children who never learn how to get themselves off to sleep on their own often present ongoing night-time waking problems as discussed below.

If the child comes out of his bedroom after the parent leaves, he should be returned immediately. If this continues to be a problem a door gate should be set up across the entry to the bedroom to block the child's

escape. These gates provide physical and psychological containment; this is often surprisingly comforting for the young child in search of limits, and is not as frightening as locking the child's bedroom door closed.

Subsequent crying can then be dealt with using either "extinction" or "controlled crying".

*Extinction* (persistent ignoring) is based on the theory that if the child's crying is not rewarded it will subside. Crying must be ignored and not attended to even if it persists for several hours. Most parents find this quite difficult; many don't feel comfortable with this approach at all, yet ignoring can work if persisted with. There is certainly no evidence that children exposed to such an approach are at risk for psychological harm.

Many parents prefer *controlled crying*, which involves responding to the child briefly at progressively lengthening intervals until the child drops off to sleep. For example, parents should allow the child to cry for 5 minutes before attending to him briefly, but then leave the bedroom promptly within 1 to 2 minutes even if the child has not settled. If crying continues, the parent waits a further 10 minutes before attending to the child the second time, spending 1 to 2 minutes with the child, and then leaving the room. If crying persists, the parents should wait another 15 minutes before attending to the child the third time, 20 minutes before attending to the child the fourth time, etc., until the child falls asleep.

Once the child falls asleep he should be left where he drops, even if this is on the floor next to the door gate. If the child is quiet in the room but not asleep, he should be left alone, even if playing quietly out of bed.

Sedatives such as chlorylhydrate (40-50 mg per kg) or Vallergan (2-4 mg per kg) can be given for a 1 to 2 week period 20 minutes prior to bedtime to supplement these behavioural techniques if necessary. However, medication should never be used as the only form of treatment for sleep problems. Behavioural methods are the treatment of choice.

## NIGHT-TIME WAKING



Contrary to popular perception, all children (and adults) wake several times each night as part of the normal cycle of sleep. These periods of transient wakefulness usually occur every two hours, and only become a problem if the child cries out during these episodes, or is unable to get him back to sleep without the parents help. Frequently, night-time waking is reinforced by children being picked up or fed, a pattern that quickly becomes entrenched and is hard to break. Those children who are placed in bed earlier in the evening already asleep are often jolted awake by the sudden realisation that they are no longer in their parent's arms. Because they have no prior experience of being able to get themselves off to sleep, they cry out for assistance.

Night-time waking can be dealt with using one of four recommended techniques: "*extinction*", "*controlled crying*", "*camping out*", or "*scheduled waking*".

*Extinction and controlled crying* are as described previously. Extinction involves continuing to ignore the child's crying for as long as it takes for the child to drop back to sleep. Using controlled crying, the child should be responded to within a minute of waking up and crying out, and then at progressively lengthening intervals for persistent crying until the child drops off to sleep on his own. During the first few days of such an intervention it may take an hour or more on each occasion for the child to get the message that his parents have no intention of backing down.

*The camp stretcher technique* is particularly useful for those children who wake frequently through the night, but settle quickly with minimal intervention. It is also valuable for those parents who for one reason or another feel unable to use extinction or controlled crying. Using this method, the parent sets up a camp stretcher flush against the child's bed or cot and sleeps in the child's room for two weeks. As soon as the child wakes and cries through the night, the parent reaches out and soothes the child with patting and soft talking. This continues for as long as it takes for the child to drop back to sleep. The parent should not pick up or feed the child during these waking episodes. After a few days and once the child is settling quickly, the parent then moves the camp stretcher about 2 feet away from the child's bed/cot and soothes the child during waking episodes by reaching out and talking softly. Once this is working satisfactorily, the camp stretcher is moved a further 2 feet away and the parent soothes the child by voice alone. Over the two week period of this program, the parent gradually weans him/herself away from the child and back into their own bed. If undertaken gradu-

ally, this technique can be highly successful.

*Scheduled waking* is a more radical but proven technique for dealing with resistant night-time waking, especially when other techniques have failed. This technique is particularly effective in those circumstances where the child's waking occurs at predictable times night after night. For the two week period of this program, the parent actively wakes the sleeping child at specified times twice each night for the first week, and once each night for the second week. For example, if the child's usual pattern is to spontaneously wake for the first time at 11pm, the parent will pre-empt this process by actively waking the child at 10.30 pm. (Some view this as satisfying a revenge fantasy!) Once awake the child is picked up and spoken to gently for a minute or two, and then placed back in bed. Usually the child will drop back to sleep immediately, presumably because they have been woken before they were "ready" to wake. The parent then wakes the child half an hour before an expected waking episode later in the night and repeats this process. For the second week of the program, the child is woken only once during the night, also about half an hour before an anticipated waking episode. After two weeks of this program, the child is usually sleeping through without waking at all. The rationale behind this intervention is to disrupt the child's dysfunctional sleep rhythm and establish a new rhythm less likely to be associated with frequent waking.

All four techniques described above can be supplemented with medication given 20 minutes prior to bedtime for a 2 week period. However, medication is less effective for night-time waking than it is for problems settling at bedtime.

Parents benefit from contact with a professional on several occasions during any such series of interventions, as emotional support and a sense of optimism about the outcome is very important. Parents should not be forced to adopt any active strategy until they feel ready to start and are comfortable with the process. Referral to a paediatrician or psychologist may be helpful in resistant cases, particularly if there are family issues which require further exploration. ●

Dr. Rick Jarman

Footnote: For "he" read "he/she".

## Parent Handouts

The Department of Ambulatory Paediatrics has developed a series of parent information leaflets which cover common paediatric conditions. These are given to parents at the time of the consultation as an aide to explanation, and parents are then able to read them at home. Many community nurses all over the country are using these handouts, which are simple to read, colourful, factual, and are packaged conveniently in tear off pads of 100 sheets.

Leaflets are currently available for the following conditions: asthma; bronchiolitis; constipation; colic; croup; eczema; febrile convulsions; fevers in children; gastroenteritis; gastro-oesophageal reflux; head injury instructions; impetigo; infection; nappy rash; otitis media; plaster instructions; scabies.

They have been translated into 15 languages, so that nurses who work with population groups whose native language is not English can use them. They are now available in the following languages: English; Arabic; Cambodian; Chinese; Croatian; Greek; Italian; Laotian; Macedonian; Polish; Portuguese; Serbian; Spanish; Turkish; Vietnamese. The translations are available in smaller quantities, down to single sheets.

The Department makes them available at cost plus a small mailing charge to nurses throughout Australia. If you are interested in obtaining these leaflets, please write to us for a sample and order form. ●

Dr. Frank Oberklaid

## ◆ From the Literature ◆

**Microwave Heating of Infant Formula: Dilemma Resolved**  
M. Sigman-Grant, G. Bush & R. Anantheswaran. *Pediatrics* 90 (3) Sep 1992 pp 412-415.

"While it is unnecessary to heat formula, many care-givers still wish to do so. For parents, the microwave oven represents a fast, easy, simple method. It is probably impossible to convince care givers not to use microwave ovens; therefore, carefully developed protocols which ensure physical safety and maintain nutrient adequacy of heated formulas should be made available."

The authors, from the department of food science at the Pennsylvania State University, tested 4 and 8 ounce volumes of cow's milk based infant formula in coloured and clear glass and plastic bottles. One problem with microwave heating is unevenness of heating. Temperatures differed at various points within the bottles - the top portions were always hottest.

Glass bottles were found to absorb microwave energy and result in higher temperatures. The authors advise: "Use of glass bottles for microwave heating of infant formula may result in cracking or

Jan Shield, Child Safety Centre, Royal Children's Hospital

explosion and should be avoided." It was found that neither vitamin C nor riboflavin was significantly affected by microwave heating and nucleotides were not destroyed.

The recommendations include: heating only refrigerated formula, heating the bottle with the cap off, inverting several times prior to serving, checking the temperature (if the milk feels warm to the caregiver, it is probably too hot) and heating 4 ounce bottles for 30 seconds and 8 ounce bottles for 45 seconds. ●

The second half of *Poisoning Prevention*, by Jan Shield, has been held over until the next issue.