


Sleep problems in infants and toddlers

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Sleep problems

- Sleep settling difficulties
- Frequent night-time waking
- Parasomnias



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Sleep normative data

Galland Barbara, Mitchell Edwin. Arch Dis Child 2010;95:850-853


	Age 1	Age 2	Age 3	Age 5
Bedtime (time)	2016	1946	2011	
Waketime (time)	0719	0735	0720	
Total Sleep (hrs)	13.5	13.2	12.0	11.2
Night time (hrs)	11.7	11.5	11.4	11.1
Day time (hrs)	2.4	1.8	1.7	-



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Day Naps


- 2 naps per day from 3-12 months
- 1 nap per day from 12-24/36 months
- No naps after 24-36 months



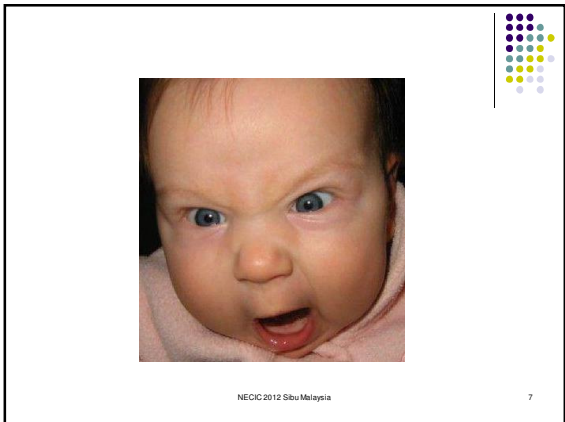
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Why treat sleep problems

- Negative impacts on day time functioning
 - Behaviour
 - Cognitive development
 - Academic performance
 - Accidental injury
- Maternal depression
- Family functioning
- Child obesity



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Infant sleep and maternal depression

Hiscock H et al. Pediatrics 2008;122:621

- Maternal depression is an established risk for adverse child development
- Randomised trial in well child care centres across 6 Government areas of Melbourne
- Subjects 328 mothers reporting infant sleep problems at 7 months
- Usual advice vs behaviour mod progrrm delivered at 8-10 months
- Follow up at 2 years using Edinburgh Depression Scale
 - Cases 4.2% depressed vs Controls 13.2% depressed

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Preventing sleep problems

St James-Roberts I et al. Arch Dis Child 2003;88:108

- To identify factors at 1 week of age which put infants at risk of failing to sleep through the night at 12 weeks of age
- Failure to develop night time sleeping in early months is predictive of chronic night waking
- 70% of infants in community sample slept through without a specific behavioural intervention
- Risk factors for not sleeping
 - >11 feeds in 24 hours

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Preventing sleep problems

- Randomised Case Control study "at risk infants"
- Intervention at 3 weeks in babies "at risk but otherwise healthy."
 - Dissociate night waking from feeding
 - Place in cot awake, don't feed off to sleep
 - For night waking, attend to, soothe, pat, change nappy but don't feed. (Brief feed if wont settle)
- At 12 weeks
 - Controls 61% slept through
 - Cases 82% slept through
- No diff in total 24 sleep duration, weight gain

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Concerns

- "Waking through the night in the early weeks of life is an adaptive behaviour to secure frequent feeding and to allow for rapid weight gain and brain growth
- "Sleeping through the night in the early weeks of life and a lack of waking for feeds is likely to put vulnerable infants at risk"
- "Behavioural treatments for night waking should not start before 6 months"

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Evaluation

- Medical history and physical exam
- How parents manage sleep and waking
- Developmental exam
- Sleep diary
- Description of nocturnal events

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Diagnostic tests - Dyssomnias

- Sleep diary may show erratic sleep schedule, disordered circadium rhythm, insufficient sleep, association of certain phenomena with triggers
- Polysomnogram: OSA, parasomnias, atypical seizures, REM behaviour disorder, hypoventilation, central sleep apnoea
- Multiple sleep latency test

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Other tests

- Lateral neck films
- Nasal endoscopy
- Overnight oximetry
- Video EEG
- HLA antigen typing
 - HLA DQB1, HLA DR2, HLA DQ1 in narcolepsy

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SLEEP DIARY

- Name: _____
- When your child is placed in the bed or cot
 - When your child gets out of the bed or cot
 - When your child is asleep
 - When your child is awake

Day	Date	Medication	W	A	S	W	A	S	W	A	S	W	A	S	W	A	S	W	A	S	W	A	S	W	A	S	
Mon	19/5																										
Tues	20/5																										

Dr. Margot Davey

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General principles

- Maximise difference between day and night
- Minimise light and social interactions at night
- Settle the baby judged to be sleepy and to avoid feeding or cuddling to sleep at night time
- Delay feeding when baby wakes at night

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Sleep hygiene principles

- Consistent routine for bed
- Consistent bedtime
- Quiet darkened and warmed bedroom <24C
- Go to bed awake. Fall asleep in own bed/cot
- Disassociate feeding from sleeping
- Consistent wake time
- Daytime exercise

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Sleep settling and night waking

- Later bedtime
- Warm bath
- Quiet time before bed
- Bed rather than cot
- Door gate
- Night light (dim), fur toy, mothers perfume
- Parent to limit time in bedroom at bedtime

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Treatment options

In children over 6 months

- Unmodified extinction
- Graduated extinction
- Extinction with parental presence
- Bed time pass (>3 years)
- Scheduled waking

- +/- medication over 12 months

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MIMS Australia 2010

- Promethazine "Contraindicated" in <2 years
- Trimeprazine "Contraindicated" in <2 years

- What about Melatonin No information

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Sedative medication and infant sleep problems.

- Cochrane search Aug 2011
- Medline search Aug 2011
- Psych abstracts search Aug 2011

- SIDS and sedative medication 0 hits
- SIDS and antihistamines 0 hits
- SIDS and promethazine 0 hits
- SIDS and trimeprazine 0 hits

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SIDS risk factors

- Prone sleeping position
- Maternal smoking
- Younger maternal age
- Male sex
- Preterm birth, low birthweight
- Ambient temperature
- Sleeping with face covered by bedsheet
- Autonomic arousal responses
- ?Sedative drugs

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