

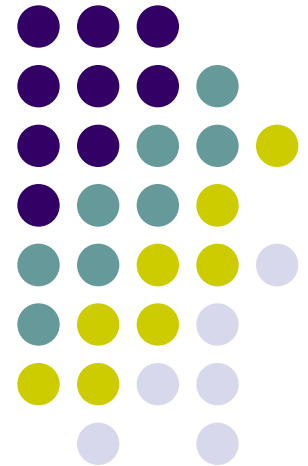
Sleep problems in infants and toddlers

Rick Jarman

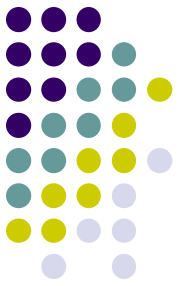
Royal Children's Hospital Melbourne

George Abbott Symposium

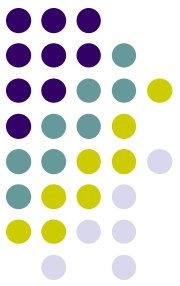
Christchurch New Zealand 19-20 August 2011



Sleep problems

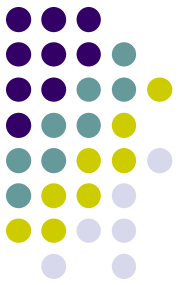


- Sleep settling difficulties
- Frequent night-time waking
- Parasomnias

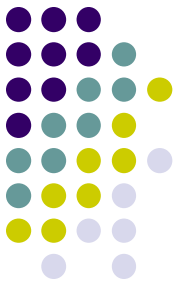


Sleep normative data

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

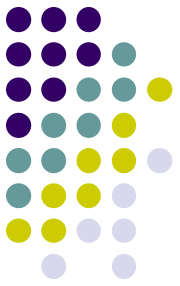


	Age 1	Age 2	Age 3	Age 5
Bedtime (time)	2016		1946	2011
Waketime (time)	0719		0735	0720
Total Sleep (hrs)	13.5	13.2	12.0	11.2
Night time (hrs)	11.7	11.5	11.4	11.1
Day time (hrs)	2.4	1.8	1.7	-



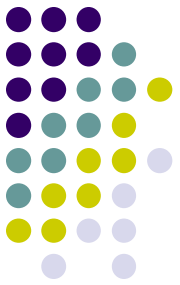
Day Naps

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



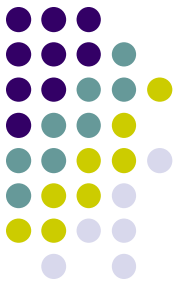
Why treat sleep problems

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



Infant sleep and maternal depression

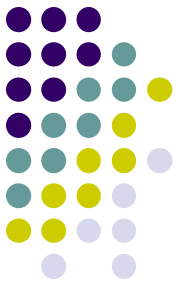
Hiscock H et al. Pediatrics 2008;122:621



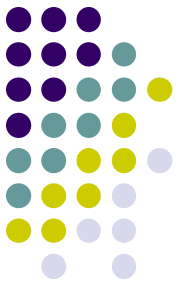
- Maternal depression is an established risk for adverse child development
- Randomised trial in well child care centres across 6 Government areas of Melbourne
- Subjects 328 mothers reporting infant sleep problems at 7 months
- Usual advice vs behaviour mod program delivered at 8-10 months
- Follow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

Preventing sleep problems

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

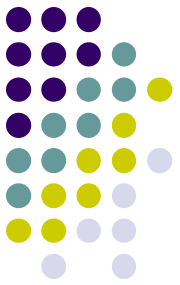


- To identify factors at 1 week of age which put infants at risk of failing to sleep through the night at 12 weeks of age
- Failure to develop night time sleeping in early months is predictive of chronic night waking
- 70% of infants in community sample slept through without a specific behavioural intervention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



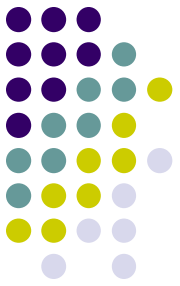
Preventing sleep problems

- 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 won’t settle)
- At 12 weeks
 - Controls 61% slept through
 - Cases 82% slept through
- No diff in total 24 sleep duration, weight gain



Concerns

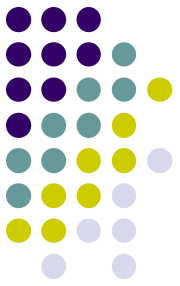
- “Waking through the night in the early weeks of life is an adaptive behaviour to secure frequent feeding and to allow for rapid weight gain and brain growth
- “Sleeping through the night in the early weeks of life and a lack of waking for feeds is likely to put vulnerable infants at risk”
- “Behavioural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



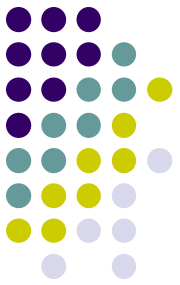
Evaluation

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

Diagnostic tests - Dyssomnias



- Sleep diary may show erratic sleep schedule, disordered circadian 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



Other tests

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

SLEEP DIARY

Name: _____

↓ When your child is placed in the bed or cot

↑ When your child gets out of the bed or cot

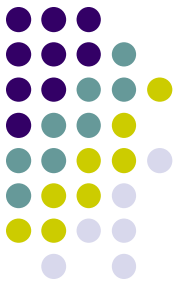
- When your child is asleep

☐ When your child is awake

Events

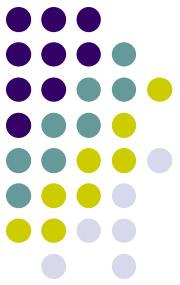
[illegible]

Dr. Margot Davey



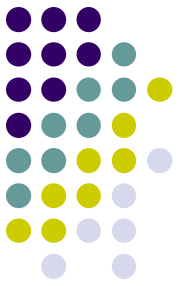
General principles

- 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



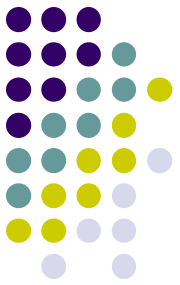
Sleep hygiene principles

- 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



Sleep settling and night waking

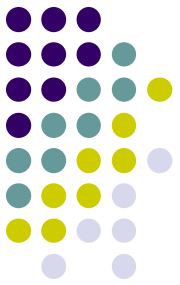
- Later bedtime
- Warm bath
- Quiet time before bed
- Bed rather than cot
- Door gate
- Night light (dim), fur toy, mothers perfume
- Parent to limit time in bedroom at bedtime



Treatment options

In children over 6 months

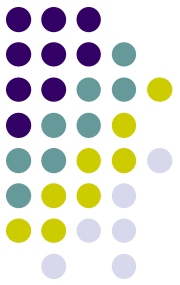
- Unmodified extinction
 - Graduated extinction
 - Extinction with parental presence
 - Bed time pass (>3 years)
 - Scheduled waking
-
- +/- medication over 12 months



MIMS Australia 2010

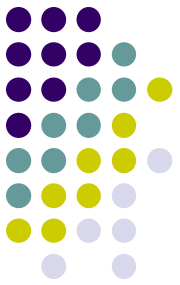
- Promethazine “Contraindicated” in <2 years
- Trimeprazine “Contraindicated” in <2 years
- What about Melatonin No information

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



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