

Summerlea Primary School

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Why are we here tonight?

We want to understand why sleep is important to our children.

We are going look at;

- Why do we sleep?
- What happens when we don't sleep?
- Common sleep problems and sleep disorders
- The link between sleep and behaviour
- Good sleep practices
- I won't be able to write any sleep management programmes but I can offer some good tips!

Common sleep problems

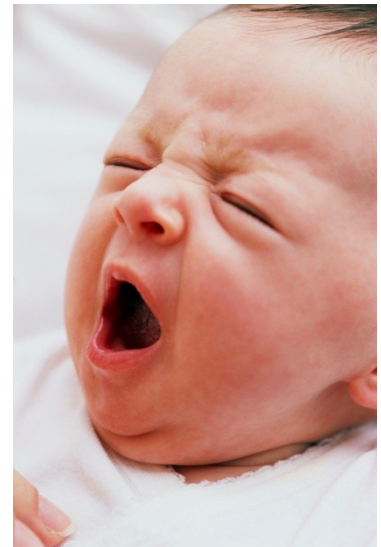
Types of sleep problems we will discuss later

1. Falling asleep
2. Maintaining sleep
3. Early waking
4. Parasomnias – night terrors, night mares and sleep walkers

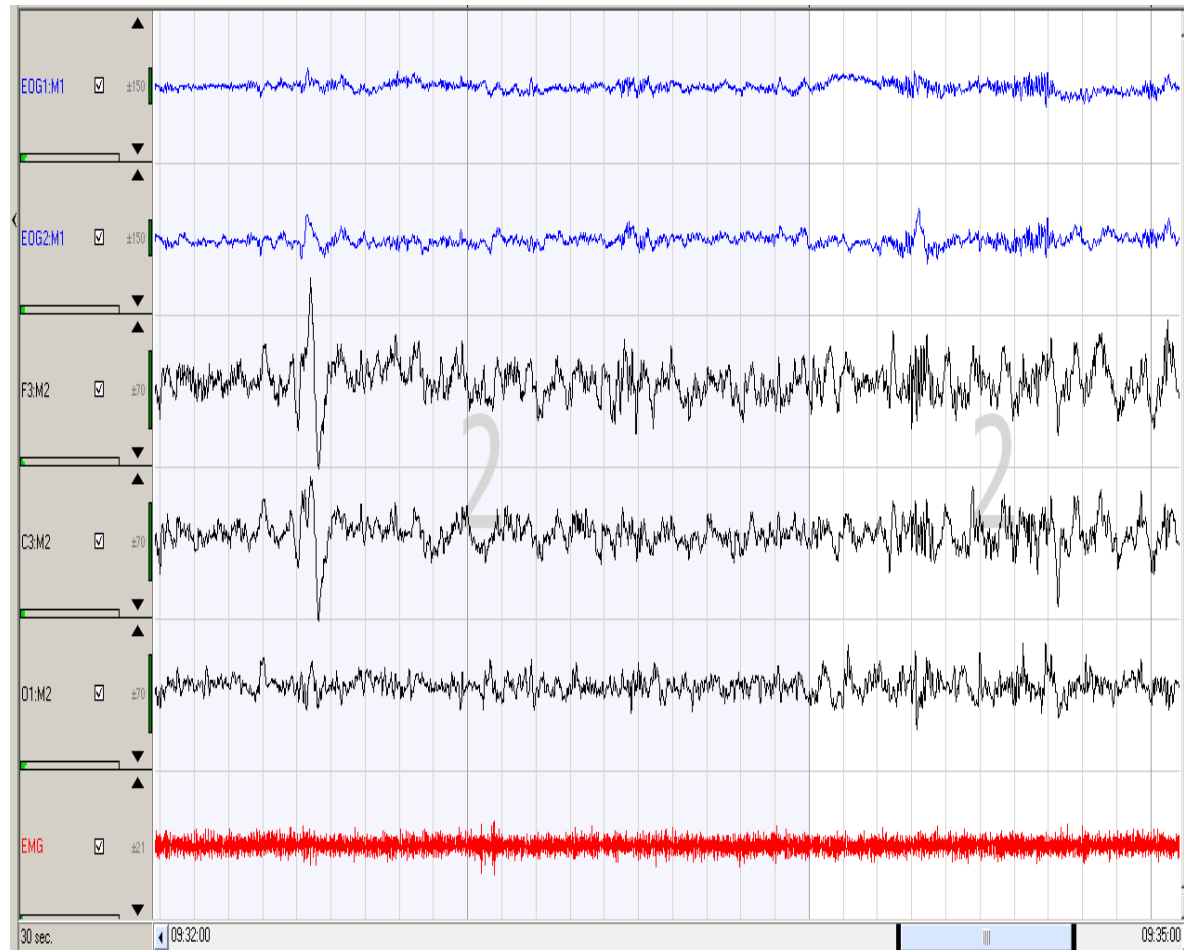


What is sleep

- A reversible state of reduced awareness and selective responsiveness to the environment.
- Limited awareness persists e.g. a mother can sleep through a thunderstorm but hears her baby crying.
- Sleep is of the brain – we study the brain waves.
- Complex chemically driven process



Sleeps as brain waves!



A History of Sleep Medicine

- Pre 1950s very little known about sleep
- The believe was that it was not worthy of study as sleep was considered to be a single state
- Dreams and dream interpretation began
- 1952 REM was discovered
- First sleep research unit opened in 1971
- They had just one question that they needed to answer and that was.....

Sleep and Vulnerability

If sleep does not serve an absolutely vital function, then it is the biggest mistake the evolutionary process ever made'.



Alan Rechtschaffen

Why do we sleep?

- We are extremely vulnerable in sleep
- We spend a third of our adult life doing it
- What is the trade off? Why would mother nature choose for us to be so vulnerable for so long?
- What does sleep do that it is that important?
- That is the question that we are still answering today

Why do we sleep?

- We don't know for sure! We don't have all the answers.
- There are a lot of things we do know about sleep
- What happens if we don't sleep?
- We take bits of sleep away so we can work out what it does!
- We are learning more every day.



What happens when we are sleep deprived?

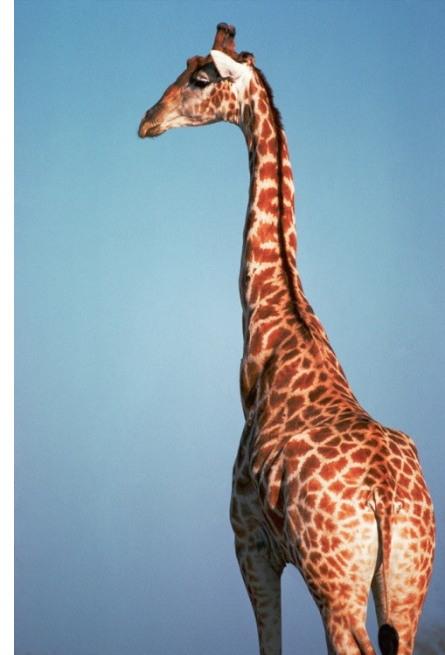
- Grumpy, miserable, emotional.
- Unable to cope with life's stresses so easily
- Dangerous to drive.
- Poor concentration.
- Forgetful
- Impaired learning
- Difficult to hold down a job
- Relationship problems
- Changes in eating patterns
- Increases anxiety etc
- In fact without sleep we die!



Theories of Sleep

- Restorative
 - allows energy conservation (100-200 calories compared to quiet wake state).
 - anabolic hormones such as growth hormone in pre-pubertal children are uniquely secreted
 - cell division and protein synthesis increase in slow wave sleep.
 - immune system function is boosted
- Neurological: Memory consolidation
- Psychological: may provide respite from daytime stimuli- 're-boot the hard drive'

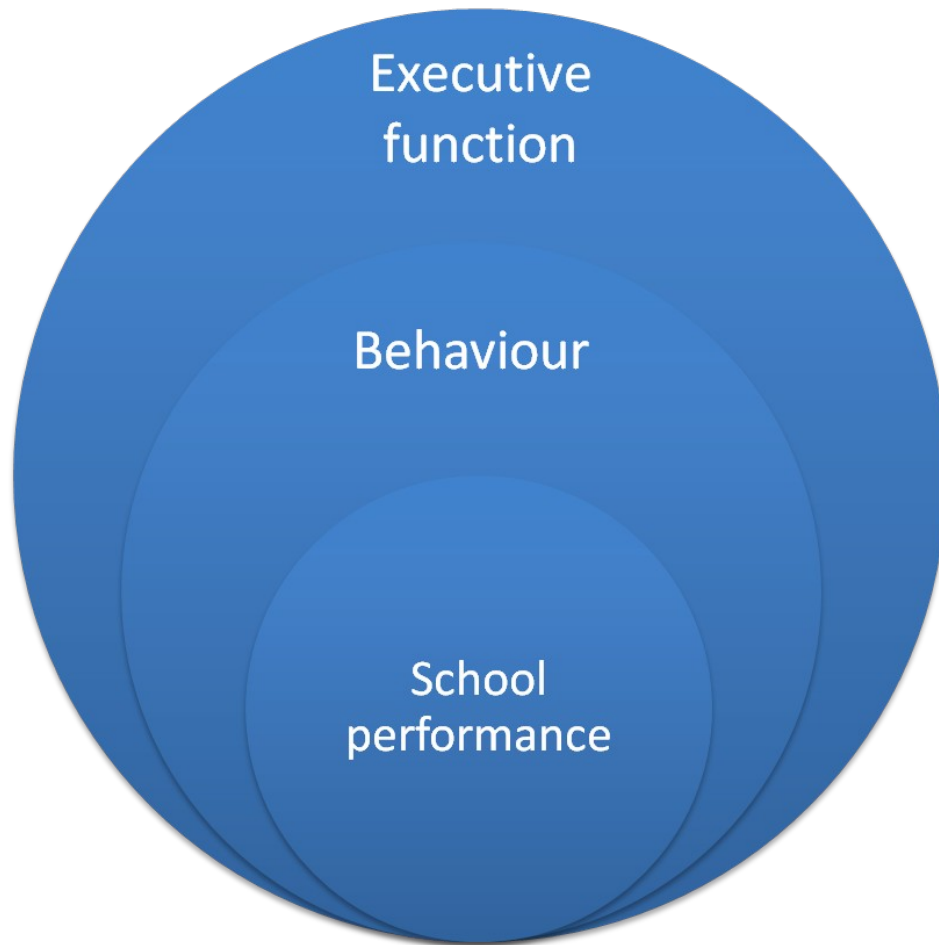
Do all animals Sleep?



How much sleep does a primary school child need?

- Average 10 hours
- Small amounts of sleep deprivation will have a knock on effect.
- Before you pay out for extra tutoring for your child take a look at their sleep!

What does the research say about when things go wrong?



Sleep and Behaviour

- Short sleep duration associated with both internalizing and externalizing behavioural difficulties



Sleep and Behaviour cont.

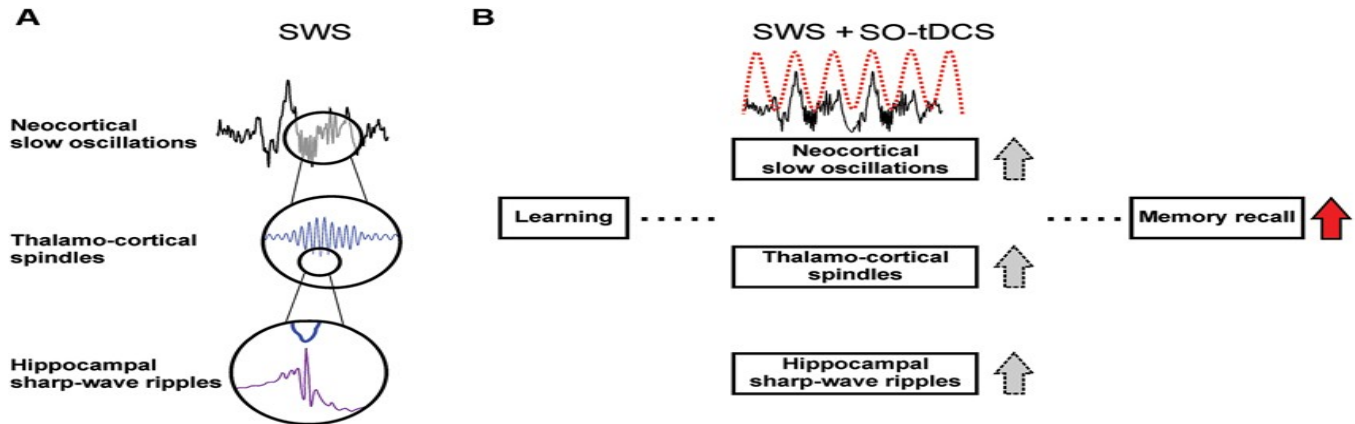
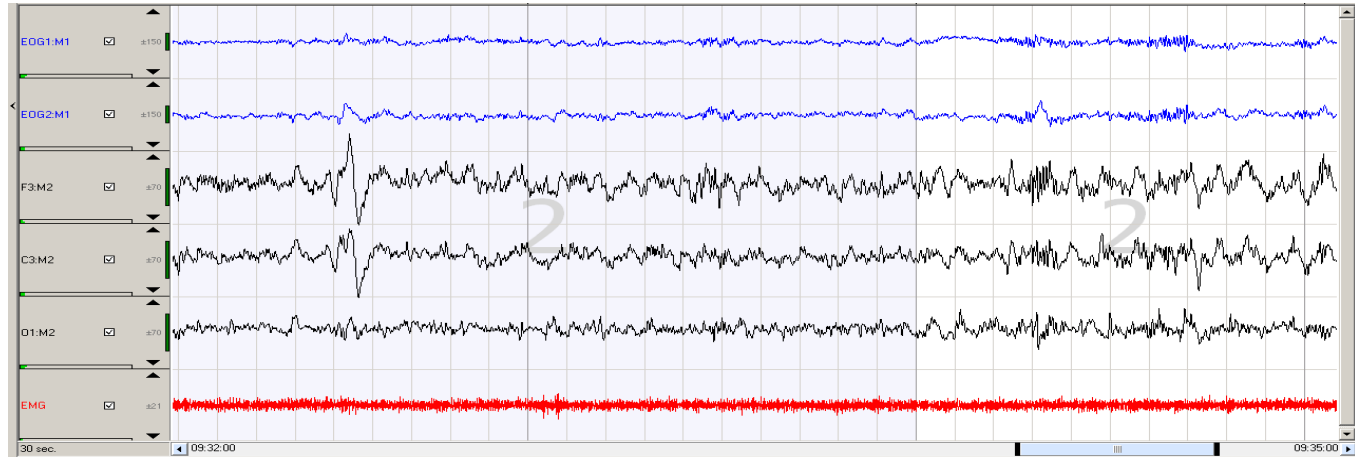
- Research shows that sleep deprived children may present with ADHD symptomology
- Children sleeping almost an hour less than the average child may be at risk of significant conduct difficulties.

Sleep and Learning

- Memory consolidation takes place during sleep – both declarative and procedural.
- If we are sleep deprived we will have difficulties in recalling events, facts, processes etc..



Memory consolidation

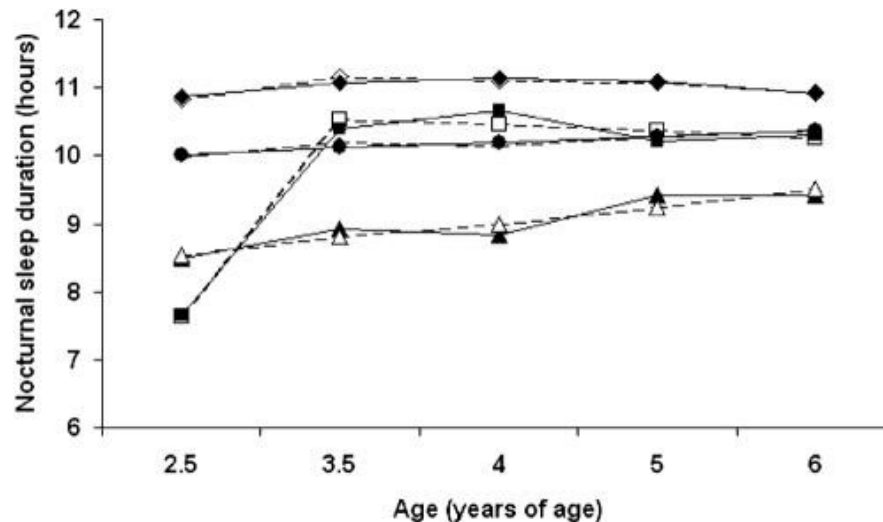


Sleep and learning cont.

- There is ample research to show that sleep deprivation can have a serious impact on academic achievement.
- But here is the really worrying bit.....

Long-term outcomes of early sleep problems?

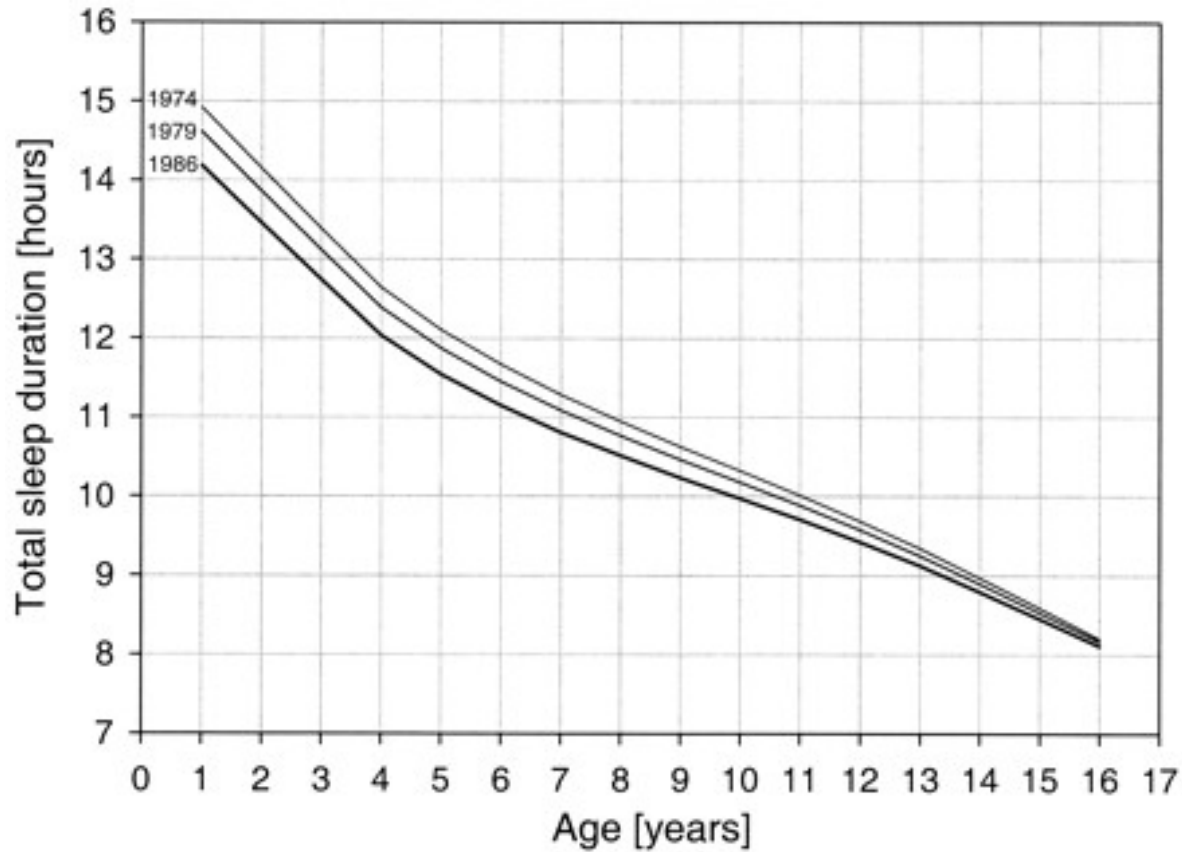
- Quebec Longitudinal Study of Child Development
- 1492 children
- 5 yrs: receptive vocab test
- 6 yrs: block design-WISC III, parent report of hyperactivity & inattention



Long-term outcomes of early sleep problems cont.

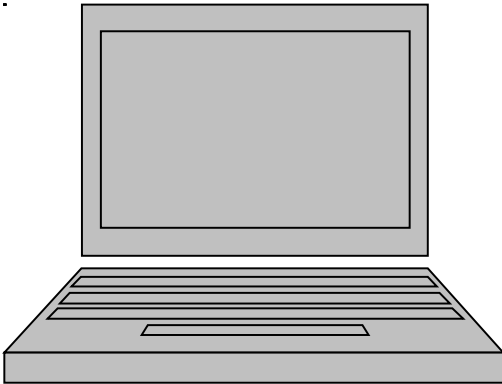
- Children with < 10 hrs sleep at 2.5 yrs regardless of whether they were persistent short sleepers were 3x more likely to have low receptive language scores
- Children with < 10 hrs sleep at 2.5 yrs but more at 3 yrs were still 2.4x more likely to be low scorers on block design tests and 3.2x more likely to have high hyperactivity/impulsivity scores.

Changes in sleep habits over time



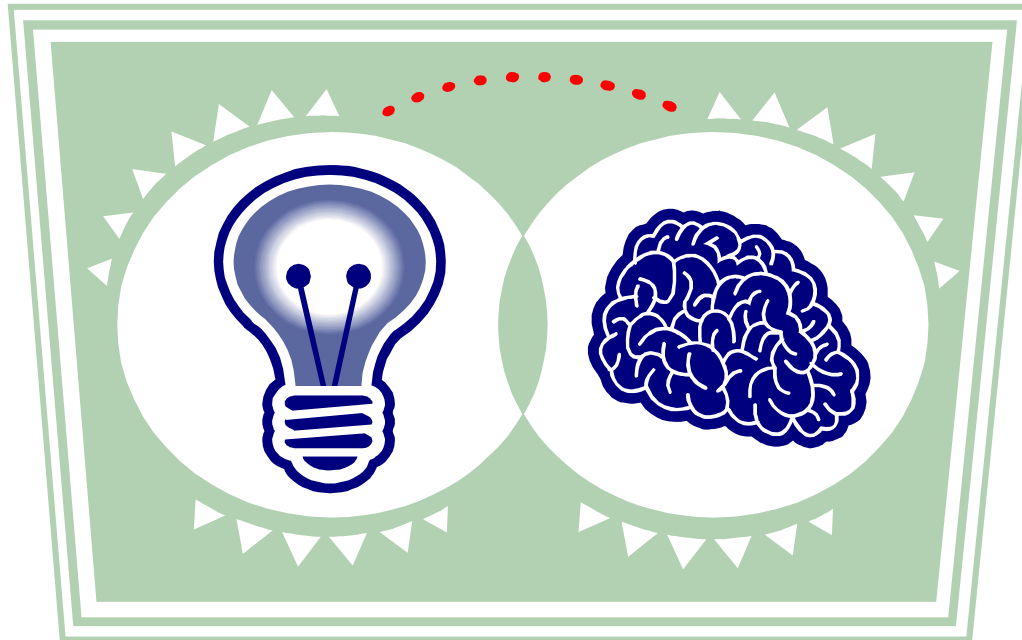
Why are we getting less sleep?

Well here is one reason.....

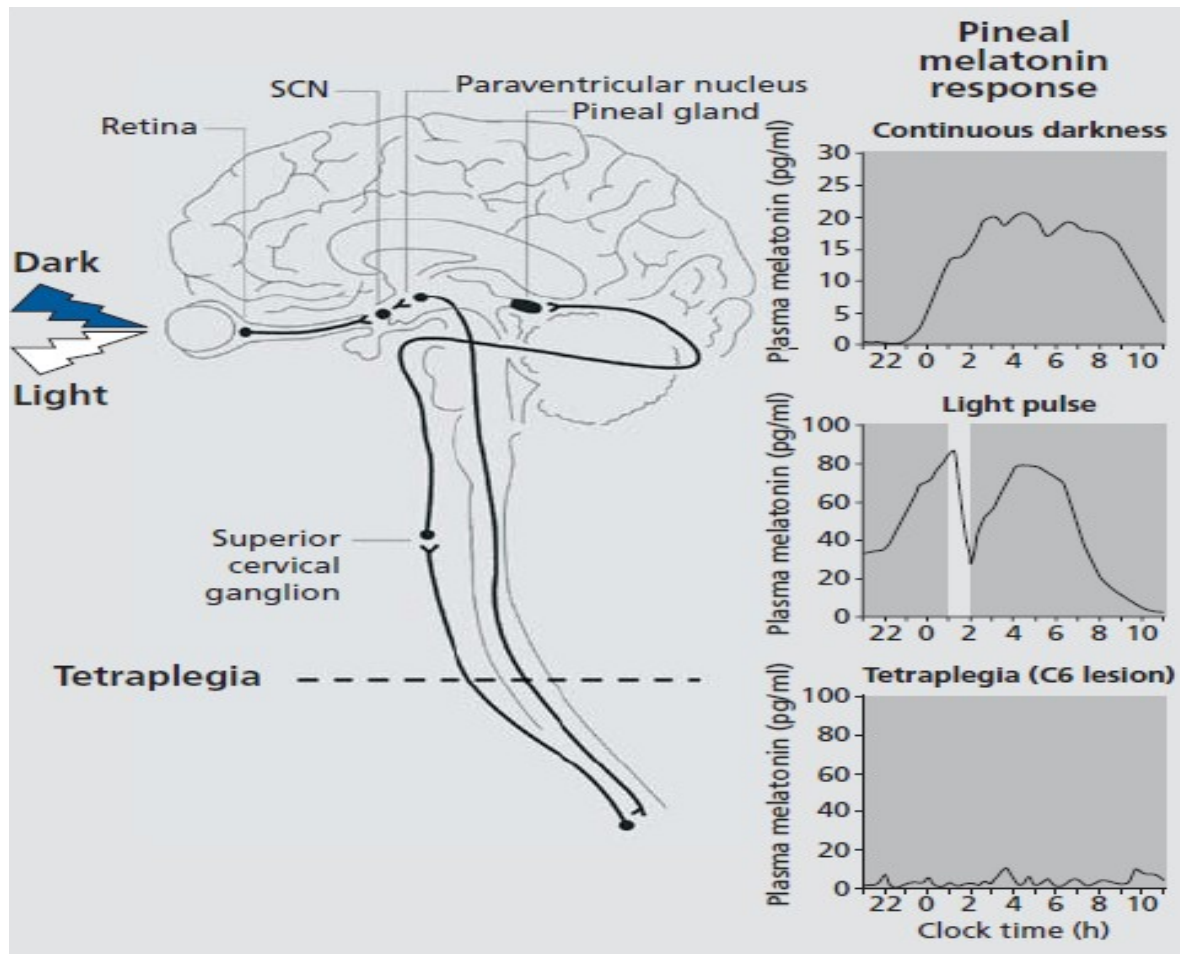


Blue Light and Melatonin

Blue light suppresses the body's release of melatonin



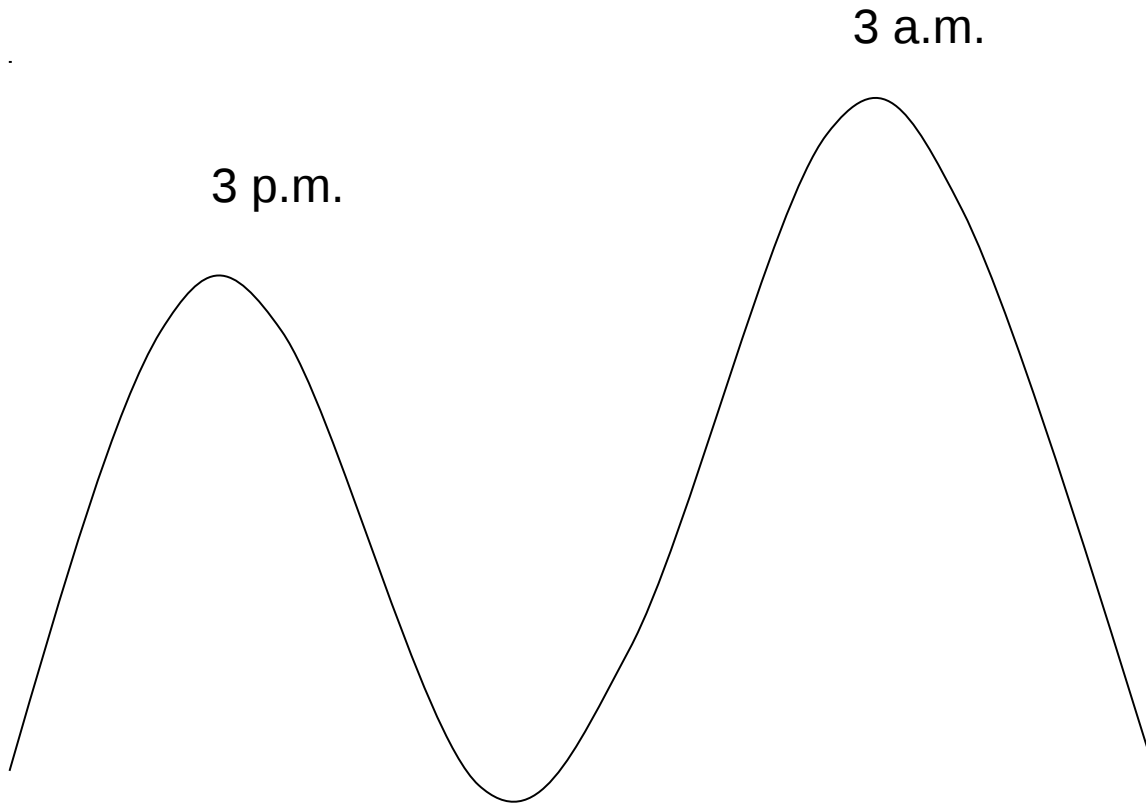
Melatonin dip with light introduction





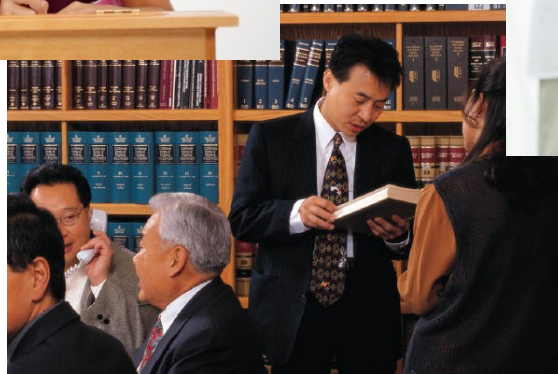
Circadian Rhythm

Natural Melatonin Levels



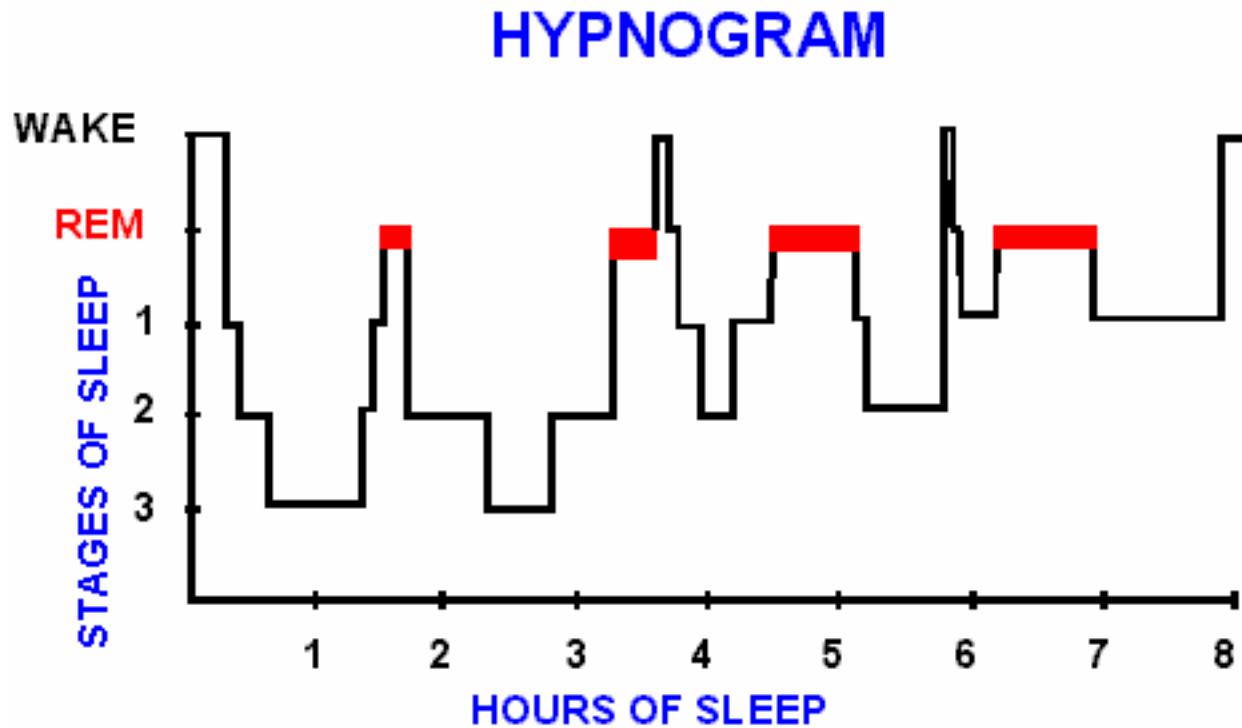
Tinker, tailor, soldier.....?

- We must get sleep right for our children if they are going to reach our full potential



Common sleep problems

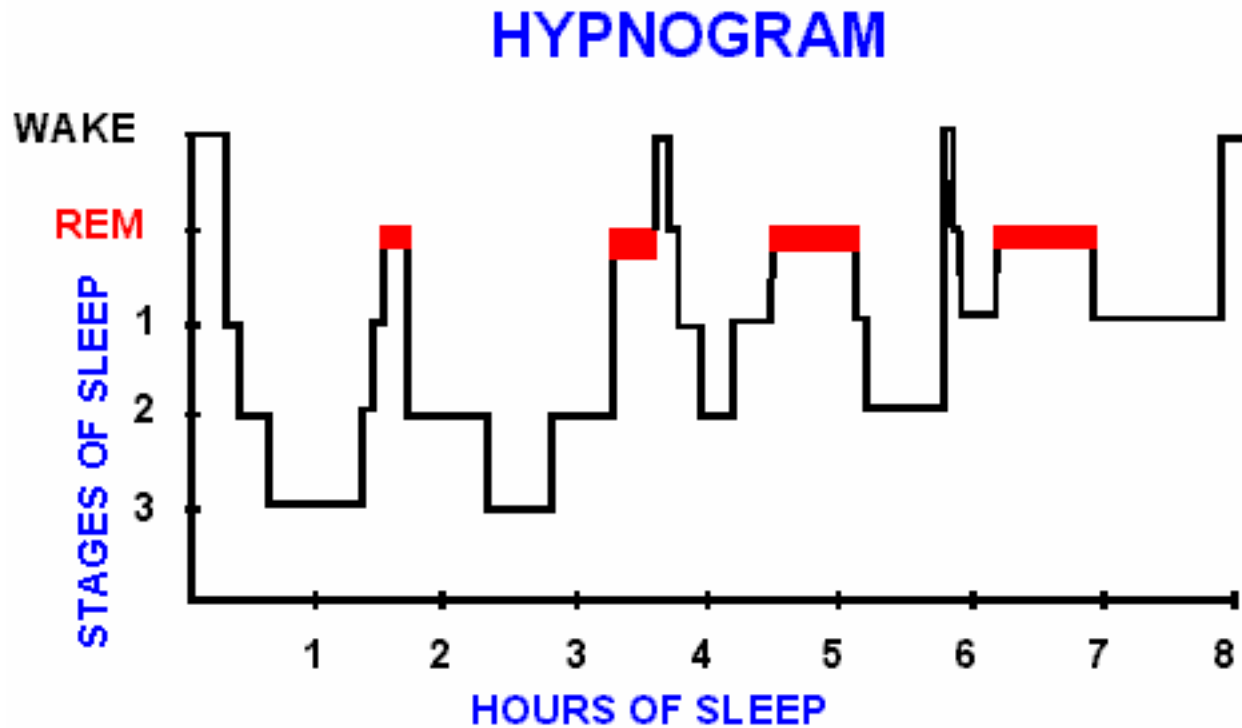
Normal sleep



Sleep Onset Association Disorder

- SOAD is the most common childhood sleep disorder.
- The child has some difficulty going to sleep (usually), sleeps approx three to four hours then wakes regularly throughout the night.
- The child requires an aid/prop to go to sleep.
- When the child wakes in the night the aid or prop is needed in order for the child to resettle.
- These children may be co-sleepers.

SOAD and normal sleep



SOAD cont

- The child must learn to fall asleep at bed time unaided so that when they have a normal night waking they can do it again
- “If you can ride a bike at breakfast time you can still ride a bike at teatime” Luci Wiggs



Early wakers

- Anything pre 6am should be considered night time
- How do you know the time when you wake in the night?
- Children need visual cues
- When did your child last eat?
- Hungry children don't sleep

Night terrors

- Night terrors tend to occur in the first three hours of sleep.
- During an episode the child is moving around and may appear distressed or confused.
- The child is asleep but may interact to some degree.
- The child has no recall.
- They can begin in very young children and even in babyhood.

Sleep paralysis



Sleep walking

- Sleep walking tends to occur in the first three hours of sleep.
- The child is asleep but may have some interaction with others
- The child will have no recall

Night mares

- Nightmares occur in the second two thirds of the night.
- The child is distressed and/or confused.
- The child is awake.
- The child does have recall.
- Nightmares can be experienced by even young babies, although no one knows for sure exactly how soon they may begin.

Common Sleep Problems cont.

Managing Night Terrors and Sleep Walking

- Made worse by stress, sleep deprivation and illness.
- TV off one hour before the onset of sleep.
- Calm, regular bedtime routine.
- No caffeinated or fizzy drinks pre bedtime – this includes hot chocolate!
- Minimal input, do not touch etc.
- No discussion the next day.

Common Sleep Problems cont.

Managing nightmares

- Made worse by stress, sleep deprivation and illness.
- TV off one hour before the onset of sleep.
- Calm, regular bedtime routine.
- No caffeinated or fizzy drinks pre bedtime – this includes hot chocolate!
- Console and reassure the child.
- Do not “buy into” the nightmare.
- Put the child back in his or her own bed.
- No discussion the next day/night.

Delayed Sleep Phase Shift

(not to be confused with bedtime resistance!)

- These children go to bed an appropriate bedtime and either lay there and do nothing or are up and down the stairs.
- They sleep all night undisturbed.
- They struggle to get up on a school day
- They lie at weekends
- They are simply living on the wrong time zone!!!

Good habits

- Good diet and exercise do impact positively on sleep.
- No screens in the hour before sleep onset
- Wind down time is important
- Don't do homework or talk about anxieties just before bedtime
- BE CONSISTENT – mean what you say and say what you mean!

Good bedtime routine

- TV/screens off 15 mins before bath time
- Quiet time and supper if required
- Bath time every night
- Toilet, teeth, pjs etc
- Bedroom
- Story
- Goodnight
- Leave
- 30 mins from bath time to goodnight

Where to now?

Children's Sleep Disorder Service

Dr Cathy Hill

c/o Sara Bowgen

Patient Pathway Coordinator – Child Health

G Level

University Hospital Southampton NHS Foundation Trust

Tremon Road

Southampton

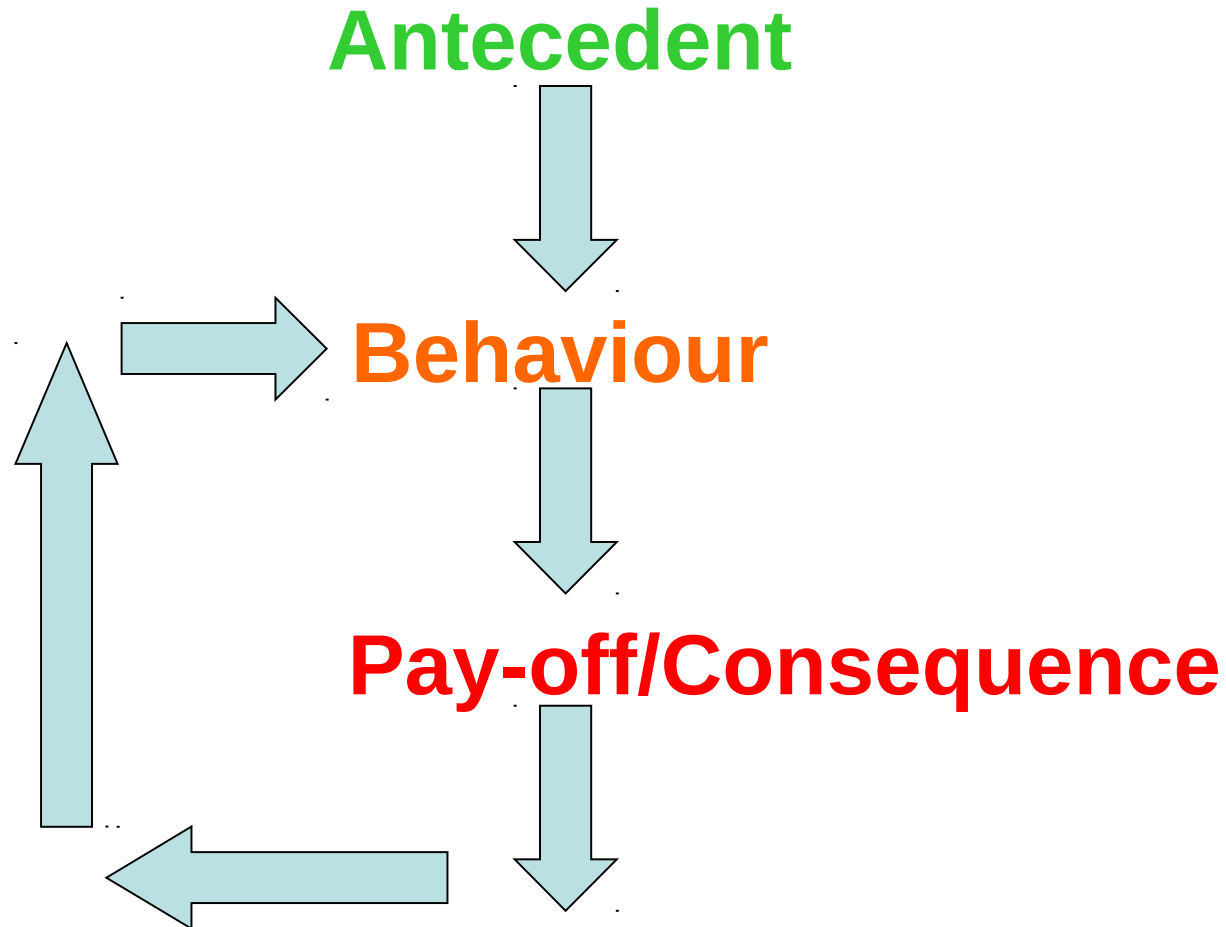
Or

www.sleep-soundly.co.uk

If we have time.....



Understanding Behaviour



Intermittent Reward System

- If the prize is worth having the child will check it out every time
- The most powerful reinforcer of human behaviour
- 1 In 10 is enough



Questions

