



SLEEP MATTERS
With Lucy Wolfe

The importance of sleep for our national school children
with Lucy Wolfe

Sleep Consultant, Co-Creational Parent and Relationship Mentor, Author of The Baby Sleep Solution, and All About The Baby Sleep Solution and Mum of Four





SLEEP MATTERS

With Lucy Wolfe

Why do we sleep?

Sleep is necessary to ensure that our children are optimally functioning-sleep is not just rest; whilst sleeping our brain and body is repairing and restoring, supervising a wide variety of biological maintenance jobs that support our immunity, muscle growth, emotions and brain processing ensuring that we and our children can function at an optimum level by day and live a nourishing and healthy life. Without adequate sleep there is an **increased risk** of the following:



SLEEP MATTERS

With Lucy Wolfe

Some possible effects of not sleeping enough

Day by Day	Long-term
Reduced alertness	Depression
Daytime sleepiness	Heart disease
Low mood	Diabetes
Lack of motivation	Obesity
Poor decision making skills	Some cancers
Increased risk of negative thinking patterns	Lower life expectancy
Poor judgement	Dementia
Less creativity	Alzheimer's
Absenteeism	



SLEEP MATTERS

With Lucy Wolfe

The two processes that regulate sleep

Falling asleep, staying asleep, and napping (when age-relevant) are all rooted in your child's biology. Just like language or motor skills, sleep matures over the first years of your child's life. As your child grows, the patterns and physiology of their sleep will change. Briefly understanding what is going on in the brain and body will make you better able to support your child's sleep development.

As your child grows, two main processes begin to regulate sleep. The homeostatic sleep drive and the circadian system.

The **homeostatic sleep drive** is like pressure that builds the longer you are awake, and then releases when you sleep.



SLEEP MATTERS

With Lucy Wolfe

The circadian rhythm and internal clock

The other system regulating your child's sleep begins with a powerful internal clock nestled in the brain. This clock is a biological pacemaker that controls the circadian rhythm allowing us to initiate the light and dark pattern of day and night. The internal clock sends messages through the 24-hour day influencing our wake patterns and many other biological processes. As bedtime approaches, our temperature begins to go down, and levels of the sleep-inducing chemical melatonin rises in preparation for sleep. Toward morning time, the activating cortisol rises alerting the body to awaken.

These systems interact and influence when and how long your child sleeps; the best quality of sleep will happen when the two are coordinated or in sync with each other.



SLEEP MATTERS

With Lucy Wolfe

Types of sleep

Sleep itself, is categorised into two main stages: rapid eye movement REM sleep and non-rapid eye movement NREM sleep and this has own three main stages that I outline below. Overnight, the brain transitions through these stages approximately every 90 minutes cycling through drowsiness, to light and dream sleep and into more deep sleep again.

We all transition through 4 stages of sleep. NREM and REM Sleep

NREM

Stage1- eyes closed, on the threshold between awake and asleep. You can be easily awakened, you may jerk (myoclonic jerk). Stage 2 This is light sleep, your heart rate begins to slow and body temp goes down. Stage 3 Slow wave sleep, now you are in deep sleep. Blood pressure and heart rate go down, and your breathing slows. It is harder to wake you up. A lot of deep sleep happens in the first part of the night.



SLEEP MATTERS

With Lucy Wolfe

REM- approximately 90 minutes after falling asleep, your brain becomes active, but voluntary muscle movements are inhibited. Brain wave are faster and less organised than in non-REM and the eyes scan back and forth under the lids. REM is the stage in which dreams occur. As the night progresses you experience more REM sleep

Sleep cycles

- Each sleep cycle by 3-4 months of age onwards this starts to increase to ca. 90 minutes. As your child starts to cycle through the sleep stages NREM & REM, they will have a partial arousals as they pass through the light moments and this is where you are most likely to hear them and it is sometimes here too that we experience your child unable to transition through their sleep cycles without parental input, that may lead to a reported sleep challenges.



SLEEP MATTERS

With Lucy Wolfe

How much sleep do we need?

Age	Amount
4-12 months	12-15hours*
1-2 years	11-14 hours*
3-5 years	10-14 hours*
6-12 years	9-11 hours
12- 18 years	8-10 hours
18-64 years	7-9 hours
64 years +	7-8 hours

Source: Hirshkowitz, M. et al., 2015

***Including Day Sleep**



SLEEP MATTERS

With Lucy Wolfe

Common sleep difficulties:

- ✓ Trouble falling asleep
- ✓ Resisting bedtime
- ✓ Preferring a later bedtime
- ✓ Waking up at night
- ✓ Restless sleep
- ✓ Early morning waking
- ✓ Not feeling well-rested

Recent studies have reported an overall prevalence of significant parent reported sleep problems with 37% of this 6-12 age group, with 15-25% prevalence of bedtime resistance, 10% prevalence of significant onset delay and anxiety at bedtime and 10% prevalence of teacher-reported and parent -reported daytime sleepiness. Another study found that 1/3 of school aged children had difficult waking in the morning and 10% feel tired during the day.



SLEEP MATTERS
With Lucy Wolfe

What influences your child's sleep?

There are a great many influences on your child's sleeping patterns: everything that they think, feel, see, do, hear, eat and drink affects their sleep. Everything the parents, think and feel, see, does influences your child's sleep.

It is all about relationshiptheir relationship with sleep- their parent, and with themselves. Relationship with the sleep environment, activity, food; the emotional and physical temperature, textures, scents, noise and so on.

Further factors include underlying medical issues such as reflux, food sensitivities and intolerances, lung problems e.g. cough, asthma, upper airway problems e.g. sleep apnoea/sleep disordered breathing, skin problems e.g. eczema. dental problems e.g. cavities/irritated gums, neurobiological problems e.g. headaches, seizures, restless leg syndrome, pain e.g. ear infections or internal pain

....all can affect your child's sleep.



SLEEP MATTERS
With Lucy Wolfe

Significant factors that relate to your child's sleep

Sleep has its own design properties and studies demonstrate certain dynamics that contribute to your child's sleep pattern and profile.

1. Sleep associations- what conditions does your child require when they are going to sleep and what do they require overnight?
2. Biological time keeping- what time is wake time and bedtime and the time that they go to sleep and; do these times vary day by day and if they are co-ordinated with their internal body clock. Children who are overtired experience a chemical response of cortisol that can make it hard to achieve and maintain sleep



SLEEP MATTERS

With Lucy Wolfe

Common causes of sleep challenges

Over-tired

Conditions change post falling asleep

Under-tired

Fears, stress, anxiety

Overstimulated

Sleep location changes overnight

Inadequate preparation for bedtime

Unpredictable responses

Irregular/late wake and bedtimes

Environment not conducive to sleep

Needs a parent present

Drinks too close to sleep time



SLEEP MATTERS

With Lucy Wolfe

Let's talk about bedtime...

Bedtime is more predictable when children are younger ranging from 6-8.30pm- from 8 years onwards this becomes more individual and will depend on many factors.

Considerations to establish your child's bedtime:

- ✓ Mood and behaviour
- ✓ Wake time and how much sleep they require
- ✓ How long it takes them to go to sleep
- ✓ What works for the family

It may be worth initially focusing on helping them get to sleep with ease and then working on ensuring enough sleep by adjusting bedtime earlier once established



SLEEP MATTERS

With Lucy Wolfe

Some steps towards better sleep

- Decide and define where do you want your child to sleep-where they fall asleep ideally is where they will wake
- Create a suitable sleep-friendly environment- consider all of the senses
- Ensure a regular wake time between 6am no later than 7.30am and avoid variation even on weekends. Observe that the wake-time allows for a calm start to each day
- Encourage good outside activity and fresh air- avoid strenuous activity/sports too close to sleep time (2-3 hours beforehand is general recommendation).
- Understand that bright and natural light exposure by day has positive implications for your child's sleeping patterns, so too can initiating a darker environment as sleep approaches
- Create regular meal times and consider the foods and drinks that do not help sleep. *Anti-sleep foods include:*
Caffeine, sugar, processed, high-sugar foods and refined carbohydrates.
- Avoid heavy meals too close to bedtime- consider a light snack- see sleep super foods list attached



SLEEP MATTERS

With Lucy Wolfe

Some steps towards better sleep

- Avoid TV and electronics an hour or more before bedtime- set a loving boundary about this
- Consider that drinks in the bedroom/as part of bedtime routine and overnight may undermine your child's sleep
- Have a family meeting introducing your child to new sleep approach; engage and trust your child with the changes that you are making
- Having identified the suitable bedtime-begin to wind down with calming activities ca. 1 hour before the bedtime routine begins to build a bridge towards achieving sleep
- Introduce a bedtime routine-that happens in the room that your child will sleep in- decide on the ratio of parent accompanied v self directed as per age
- Reserve the bed for sleep only and have the routine activities outside of the bed itself



SLEEP MATTERS

With Lucy Wolfe

Suggested calming activities- an hour of so before the bedtime routine begins

- Listening to music

- Reading

- Wordsearch

- Crosswords

- Drawing

- Colouring

- Puzzles

- Jigsaws

- Family time

It is the deep-seated need for each child to feel seen, heard, loved, safe, secure and belonging to the holding world of family. It is important that we are creating a loving, attentive, warm, responsive family culture that honours your child's individuality. Children flourish with their parents loving presence- ensure that we are spending lots of one to one, connected time with each of our children-nothing to do with sleep- with plenty of dialogue, eye contact and physical touch. Practise active listening and being wholly available to them and try your best not to be distracted by modern life such as phones when we are focusing on them.



SLEEP MATTERS

With Lucy Wolfe

Suggestions to create positive bedtime routines- adjust activities as age appropriate

- Ideally in the bedroom where your child will sleep following the bath, shower, teeth – 20-30 minutes before you anticipate “lights out”-bed “time”
- Use visual aids to support bedtime- check lists, storyboards, lamp on timer, bedtime zone in bedroom
- Encourage a logical and linear sequence to the bedtime routine that leads to getting into bed
- Have the same ritual each night; limit the bed activities to 3-6 items e.g. foot rub, story-time, songs, cuddles, chats, relaxation/ breathing exercises, visualisation, meditation. Create a beginning, middle and end to the bedtime process to help avoid stalling and to ensure maximum connection
- Create space for your child’s involvement and their own sense of being in charge- lots of choices, engagement and support



SLEEP MATTERS

With Lucy Wolfe

How can your child learn to sleep on their own at bedtime and overnight?

Interventions are only effective when coupled with the preceding recommendations and require implementation at both bedtime and overnight as necessary

The stay and support staged based approach

- Suitable for parents who are currently staying with their child or keep being called back or for the child who routinely gets out of bed. Allows for parents to make the changes such as removing drinks, “extras”, holding hands, laying with their child, establishing sleep in a bed rather than sofa. Parents are encouraged to sit on the floor beside the bed and to physically, verbally, emotionally support their child through the changes and then moving through positions for example nights 1-7 beside the bed , nights 8-11 mid-room, 11-14 door-frame and 15+ into hallway until your child is going to sleep without a parent present.
- Important consideration to boundaries and loving limit setting as well as adjusting bedtime so that they can get to sleep with 10-30 minutes of lights out. Repeat overnight to address frequent night waking/early morning waking



SLEEP MATTERS

With Lucy Wolfe

How can your child learn to sleep on their own at bedtime and overnight?

Checking-in

- Leaving and returning on a paced time-basis to reassure and affirm your child with the aim of discontinuing the return visits as they become more secure in the overall context of their sleep. Ultimately allowing your child to get to sleep themselves.

The bedtime pass

- Token system with people-reward incentive attached. Make a token or 2 that allows for a call out or for getting out of bed- unused tokens can be exchanged for activity and time with parent, trip to the swimming pool etc

Additionally: It will take time to establish new concepts and ways of being in your house. It will be necessary to continually review and adjust – keeping a sleep journal can help identify what is working and what is not. Being kind to yourself, being patient and confident will help you to be predictable and continually encourage nourishing sleep for your family.



SLEEP MATTERS

With Lucy Wolfe

Thank you for your attention and presence and for sharing your time with me.





SLEEP MATTERS

With Lucy Wolfe

References:

- Anders, T. & Keener, M., 1985. Development course of night-time sleep-wake patterns in full term and premature infants in the first year of life. *Sleep*, Volume 8, p. 173.
- Blunden, S., 2011. Behavioural treatments to encourage solo sleeping in preschool children, an alternative to controlled crying. *Child Health Care*, Volume 15, pp. 107-17.
- Burke, R., Kuhn, B. & JL, P., 2004. Brief report: A "storybook" ending to children's bedtime problems, the use of a rewarding social story to reduce bedtime resistance and frequent night waking. *Pediatric Psychology*, Volume 29, pp. 389-96.
- Buckley, A., 1982. A two-process model of sleep regulation. *Hum Neurobiology*, 1(3), pp. 195-204.
- Burnham, M., Goodlin-Jones, B. & Gaylor, E., 2002. Night-time sleep wake patterns and self-soothing from birth to one year of age; a longitudinal intervention study. *Child Psychology Psychiatry*, Volume 43, pp. 713-25.
- Coon, S., 1987. Developmental of sleep and wakefulness during the first 6 months of life. In: C. Guileminault, ed. *Sleep and its disorders in children*. New York: Raven Press.
- Eckerberg, B., 2004. Treatment of sleep problems in families with young children. Effects of treatment on family wellbeing. *Acta Pediatrics*, Volume 93, pp. 126-34.
-



SLEEP MATTERS

With Lucy Wolfe

References :

- Fallone, G., Acebo, C. & Seifer, R., 2005. Experimental restrictions of sleep opportunity in children. Effects of teacher rating. *Sleep*, Volume 28, pp. 1279-85.
- Fatima, Y., Dri, S. & Miamum, A., 2015. Longitudinal impact of sleep on overweight and obesity in children and adolescents; a systematic review. *Obesity Reviews*, 6(2), pp. 137-149
- Friman, P., Hoff, K., Schones, C., Freeman, K., Woods, D., & Blum, N. (1999). The Bedtime pass: An approach to bedtime crying and leaving the room. *Pediatrics and Adolescent Medicine*, 153(10), 1027-29.
- Gronfier, C., 2003. Efficacy of a single sequence of intermittent bright light pulses for delaying circadian phase in humans. *American Journal of Physiology*, 287(1), pp. 174-181.
- Gaylor, E., Bunrham, M. & J, G., 2005. A longitudinal follow up study of young children's sleep patterns using developmental classification system. *Behavioural Sleep Medicine*, Volume 3, pp. 44-61.
- Hirshkowitz, M. et al., 2015. National Sleep Foundation's Updated Sleep Duration Recommended, Final Report. *Sleep Health*, Volume 1, pp. 233-43.
- Kataria, S., Swanson, M. & Tevathan, G., 1987. Persistence of sleep disturbances in preschool children. *Pediatrics*, Volume 6, pp. 110-642.
- Lockley, S., Brainard, G. & Czeisler, C., 2011. High Sensitivity of the human circadian melatonin rhythm to resetting by short wavelength light. *Journal of Clinical Endocrinology*, 88(9), pp. 4502-5.



SLEEP MATTERS

With Lucy Wolfe

References:

- McDonald, L., Wardle, J. L. C. & Van Jaarsveld, C., 2014. Predictors of shorter sleep-in early childhood. *Sleep Medicine*, 15(5), pp. 536-540.
- Meltzer, L. & Mindell, J., 2007. Relationship between child sleep disturbances and maternal sleep, mood, and parenting stress. *Family Psychology*, Volume 21, pp. 67-73.
- Mindell, J. & Owens, J., 2015. *A Clinical Guide to Pediatric Sleep Diagnosis and Management of Sleep Problems*. 3rd ed. Philadelphia: Wolters Kluwer.
- Mindell, K., A, F. & Faulkner, S., 1994. Sleep problems in toddlers. effects of treatment on their daytime behaviour. *American Academy Child Adolescent Psychiatry*, Volume 33, pp. 1114-21.
- Mindell, J., B, K. & Lewin, D., 2006. Behavioural Treatment of bedtime problems and night waking's in infants and young children. *Sleep*, Volume 29, pp. 1263-76.
- Mindell, J. & Moore, M., 2013. The impact of behavioural interventions for sleep problems on secondary outcomes in young children and their families. In: H. Montgomery -Downs & W. A, eds. *Oxford handbook of infant child and adolescent sleep*. Oxford: Oxford University Press, pp. 547-558.
- Mindell, J. & Moore, M., 2014. Bedtime problems and night waking's. In: S. Sheldon, R. Ferber, M. Kryger & D. Gozal, eds. *Principles and practice of pediatric sleep medicine*. Philadelphia: Elsevier, p. 107



SLEEP MATTERS

With Lucy Wolfe

References:

- Owens, J., 2019. Behavioural sleep problems in children.
- Sadeh, A., Gruber, R. & Raviv, A., 2002. Sleep, neurobehavioral functioning and behaviour problems in school age children. *Child Development*, Volume 73, pp. 405-17.
- Sadeh, A., Gruber, R. & Raviv, A., 2003. The effects of sleep restriction and extension on school age children; what a difference an hour makes. *Child Development*, Volume 74, pp. 444-55.
- Sadeh, A. & Mindell JA, L. K., 2009. Sleep and sleep ecology in the first 3 years, a web-based study. *Sleep Res*, 18(1), pp. 160-73.
- Sheldon, S. F. R., Kryger, M. & Gozal, D., 2014. *Principles and practice of pediatric sleep medicine*. 2nd ed. Elsevier Inc.
- Rahman, S., 2011. Spectral modulation attenuates molecular, endocrine and neurobehavioral disruption induced by nocturnal light exposure. *American Journal of Physiology*, 300(3), pp. 518-527.
- Rivkees, S., 2003. Developing Circadian Rhythmicity in Infants. *Pediatrics*, 112(3), p. 377.



SLEEP MATTERS

With Lucy Wolfe

Sleep Super Foods:

- The banana. The non medical equivalent to a sleeping pill; containing the sleep hormone melatonin and relaxing chemical serotonin and also magnesium, that helps to relax the muscles.
- Dairy products. Milk, cottage cheese, yoghurt and cheese are all good sources of tryptophan that helps to make serotonin; which makes us feel sleepy. Also, dairy contains calcium which helps the body to process the tryptophan and produce a second sleep inducing neurotransmitter; melatonin.
- Oatmeal. Oats are a rich source of melatonin and it's filling too.
- Honey. A spoon of honey in milk is an age old remedy for insomnia. Too much sugar is stimulating, but a little glucose signals to your brain to turn off orexin, which is a neurotransmitter linked to alertness.
- Whole-wheat bread. A slice of brown bread toast with a drink of milk and honey, delicious, but also useful. This will release insulin which enables the tryptophan (makes us sleepy), to get to the brain, where it is converted to serotonin-the sleep inducing hormone, which in turn lets the body know..It's sleepy time.



SLEEP MATTERS

With Lucy Wolfe

Sleep Super Foods:

- Some seeds-flaxseed, jujube seeds and chia seeds can have a calming and sedative effect.
- Almonds are another sleep inducing food-you can get them ground or whole. They contain both tryptophan and also magnesium that helps to relax muscles.
- The potato. A small baked potato won't send your GI tract into overload; it will clear away acids that can inhibit our sleepy friend tryptophan in order to make way for restful sleep.
- Turkey, probably the best source of tryptophan. Put a slice of turkey on some wholegrain bread and you have one of the best sleep enhancing foods that you will use.
- Lettuce has a great reputation for promoting healthy sleep, There is an opium-related quality to lettuce.