Early to Bed, Early to Rise.... really does make children WISE!



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Children (until they reach puberty) wake up early in the day because of their internal body-clocks that are regulated by circadian rhythms. These patterns are regulated by two body systems, namely sleep/wake homeostasis (the regulatory mechanisms in our body that regulate our sleep drive) and the circadian biological clock.

"The circadian biological clock is controlled by a part of the brain called the Suprachiasmatic Nucleus (SCN), a group of cells in the hypothalamus that respond to light and dark signals. From the optic nerve of the eye, light travels to the SCN, signalling the internal clock that it is time to wake up. The SCN also signals to other parts of the brain which controls hormones, body temperature and other functions that play a role in making us feel sleepy or awake.

In the mornings, with exposure to light, the SCN sends signals to raise body temperature and produce hormones like cortisol. The SCN also responds to light by delaying the release of other hormones like melatonin, which is associated with sleep onset and is produced when the eyes signal to the SCN that it is dark. Melatonin levels rise in the evening and stay elevated throughout the night, promoting sleep."¹

As stated, light exposure and daily routines like meal times influence individuals' feelings of sleepiness. To make use of the optimal time for our bodies to sleep, children need to be in bed from 7pm to approximately 7am. A recent study done at the University of Colorado⁶ measured the melatonin onset and proved that it peaked around 7:40pm which further supports this point.

Most experts agree that children (up to the age that they reach puberty) need an average of 11/12 hours of sleep a night. In a recent Child Sleep research study² they have proven that children today are more sleepdeprived than their parents or grandparents were as children. Children are being kept awake at night as a consequence of our lifestyles and because of the mechanism as explained above, they still wake up early which causes them to become sleep deprived.

How to aid parents in helping their children understand the value of "just another hour"

The child's room should be as dark as possible. Even the slightest sliver of light can encourage a baby to wake before an appropriate time, especially during summer months. Humans sleep best in complete darkness so it is useful to suggest good blackout blinds for the family.

The parents should be aware that any environmental noise is kept to a minimum. The use of a radio set to white noise (noise with a very specific acoustical pattern and preferably not music) can help eliminate the chance that a child is woken by garbage trucks or noisy spouses. White noise can be described as noise with an amplitude that is constant throughout the audible frequency range.⁴

The sleep promoting qualities of music have been extensively studied, and indeed music has been shown to be effective in improving sleep quality.⁵ However, music doesn't contain the wide range of frequencies that are needed to mask intrusive sounds, so it's less effective than white noise in this respect. Music is best used for relaxation rather than as a means to 'block out' other sounds. If white noise is introduced it should only be used when baby goes to bed, and should ideally be kept on all night to create a consistent sleep environment. When a baby cries, increase sound level – for a few minutes - to the level of a vacuum cleaner. And, for safe naps and all night sleeping keep the sound about the level of a soft shower IF your baby needs it. (We encourage parents to place the sound within a few feet of the baby's sleep area and to listen to the sound themselves to judge whether it is too loud.)³

Parents should be consistent about wake-time in the morning. It is advisable for parents to have a consistent wake-up time for a child and one finds that a child that have a consistent bedtime routine will routinely wake up at the same time every morning. If the family has a toddler who is in a bed, introducing a night light that changes colour when it is morning can be very useful. Recommended products include the Gro Clock or the Good Nite Lite.

It is important to keep the baby awake for his age appropriate wake-time (please refer to **Figure 1: Nap- and sleep times as per age group**) in the mornings. If the baby naps too early after waking, he/she will start to use this as an extension of their night time sleep, thereby falling out of rhythm for the remainder of the day. It is useful to assess the baby's early-waking pattern from the parents: Could the child be searching for a specific pacifier? A common mistake parents make is to feed a child immediately once he/she is awake. Rather, parents should delay the baby's first feed by 'buying time' with offering a pacifier, or teaching the baby to self-sooth by suckling on his fist, instead of placing a bottle of milk in baby's mouth, or picking baby up to breastfeed. If babies are rushed to feed, parents are inadvertently supporting the baby's decision that it's time to wake-up. Off course: if the baby is really hungry, do not delay the feed by frustrating baby with a pacifier.

The baby's bedtime should be consistent. Babies often wake early in the mornings because they are overtired. Children should fall asleep in their cot/bed between 6 pm and 8 pm as they will more than likely sleep until 6 am. Encourage parents to try this routine for at least a week or two for best results. Patience and perseverance is crucial in forming good sleep habits.

Some children are more perceptive to routine changes if these are implemented slowly. Another tactic for parents to consider is to slowly move bedtime on by 10 minutes every three days, until it is 30 minutes later than normal. Again, parents need encouragement to stick with their new routine for at least one week, if not two.

A final resort for parents to employ is the "Wake to Sleep" method: keep in mind that this method need only be utilised by the parent who has already attempted the other guidelines. Another caution is that this method can only be implemented if the wake time is fairly consistent. Parents are required to set their alarms for 10 minutes before the current wake time of the baby. The parents need to go into the room and lightly rouse the baby without waking the baby (a tricky balance), and then quietly leave the room.

Figure 1 - Nap and sleep times as per different age groups				
Age	Number of naps	Total length of naptime hours	Nighttime sleep hours	Total of nighttime and naptime sleep
0-3 months	4-5	6-9	11-12	16-18
3-6 months	3	3-5	11-12	15
6-12 months	2	2-4.5	11-12	14
12 months	1-2	2-3	11.5-12	13.5-14
18 months	1-2 (usually 1)	2-3 (usually 2)	11.5-12	13-14
2-5 years	0-1	0-2.5	11-11.5	11-13

If the baby still wakes at the same time, the only other option is to leave the child until the parents' decided minimum wake-up time. If the baby manages to sleep longer, but still not until the parents' minimum wake-up time, the parents have the option to leave the baby in the room until that time. This method will have to be followed for a minimum of seven days to realise results. Again, patience and perseverance are the best words of encouragement in these circumstances.

As with most things that involve change, sometimes all that is required is time. The most important thing for parents to remember is that putting children down late will NOT make them sleep later and it actually makes children wake up earlier. If parents are serious about adjusting their little ones' "clocks", it will take a fair amount of discipline and determination. As the old saying goes, 'anything in life worth having is hard work'.

Lastly, it is with great regret that children are not built with a "week" clock, and a "weekend" clock. In short, consistency is key! If the children are napping successfully during the day, parents can catch forty-winks with the child, or parents can aim to give themselves a few earlier nights to feel refreshed when their children start their day for them.

References available on request.

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