



A Good Night's Sleep

Humans spend about a third of their lives sleeping, although some people manage on much less. Thomas Edison believed that sleep was a waste of time. However, research shows that sleep deprivation can have serious consequences on memory, concentration, behaviour, mood, judgement and on overall health.

The average length of sleep is 7.75 hours, although no one actually sleeps this long without interruption. In any sleep cycle, there will be periods of light and deep sleep followed by active sleep. At the end of active sleep, the sleeper may wake up, but if undisturbed will drift back to sleep again.

Adults have at least five cycles of sleep at night, with each cycle lasting about 90 minutes. Babies follow a similar pattern, but the cycles are much shorter. Generally, cycle length increases with age. By the age of six months, babies may sleep for five hours or more and wake up less frequently.

Very young babies will wake up at the end of a sleep cycle if they are hungry, uncomfortable or if breathing is obstructed. Research suggests waking up between cycles to be a survival mechanism. This is why parents should not feel pressured to get their new baby to sleep too long, too deeply, too soon.

For most parents, the two main problems are falling asleep and staying asleep. Some babies fall asleep easily and stay asleep while others fall asleep easily, but wake up frequently. Some babies go to sleep with difficulty, but stay asleep, while others do not want to go to sleep or stay asleep. Babies that were good sleepers at six months of age may develop sleeping difficulties as they grow older and vice versa.

Sleep problems are common in babies, but understanding and knowing how to deal with them enables parents to get a better night's sleep for themselves, which in turn enables them to provide loving, patient and consistent care for their baby.

Sleep deprivation

In 1964, Californian high school student Randy Gardner set a new world record by staying awake for eleven days. After two days, Gardner experienced mood swings, concentration and memory loss. By the fourth day, he began hallucinating. Although he appeared to be in good health on the final day, research shows that chronic sleep loss increases the risk of heart disease, obesity, depression and diabetes. Even short-term sleep loss can have serious consequences. Several major industrial accidents and international nuclear disasters, such as Chernobyl and Three Mile Island, have been linked to sleep deprivation.

Prolonged sleep deprivation in babies can have an effect on normal brain development resulting in decreased brain mass, nerve cell death and stunted growth. Children who do not get enough sleep, may perform poorly on creative and problem solving tasks and may have behavioural problems when they go to school. There is plenty of evidence to suggest that sleep deprivation can make children hyperactive.

Falling Asleep

The one thing that the sleep experts all agree on is the need for a consistent, regular bedtime routine. It doesn't matter what the routine consists of providing the same things happen every night. Babies soon learn to associate

certain events and situations with bedtime, although it may take a week or two for them to develop new sleep habits.

Here are a few tips that may help:

- Allow a quiet wind-down period of about 20 minutes before bedtime.
- Make the bedtime ritual as calm and as relaxed as possible to reduce stress levels.
- Help baby relax and unwind in a warm bath. When she gets out, the surrounding cooler air will lower her temperature, which will help trigger the sleep mechanism.
- Put baby in special clothes that are only used at night.
- Snuggle quietly with baby, give her a massage or read a story, but avoid over-stimulating her or she will still be fizzing at bedtime.
- Use key words such as 'Bedtime' or 'Night-night' which are associated with sleep.

Signs of tiredness

Look out for signs of tiredness. For example, an intermittent 'Owh' sound means that baby is sleepy. Other signs include fussing, gaze aversion, unfocused glazed eyes and yawning.

Tips for promoting sleep

- Let baby have a daytime nap when she needs it or she may become over-tired and difficult to settle at bedtime.
- Avoid putting baby down on a very full tummy, as this will increase core body temperature and keep her awake.
- Wind baby fully before bedtime.

- If breastfeeding, avoid alcohol, artificial sweeteners and excess caffeine, which can have a negative effect on baby's ability to sleep.
- Ensure that the room temperature is neither too hot nor too cold and that baby is dressed comfortably. These checks can make all the difference to sleeping.
- Avoid warming baby's bed with cot bumpers or too many soft toys. These can raise core body temperature and keep baby awake.
- Make sure that the room is dark and quiet. This will help baby to learn the difference between night and day.
- Swaddle baby in a cotton blanket to remind her of the warmth and comfort of the womb. Wrap this firmly around her body and tuck in her arms and legs (baby's hands can be placed near her face so that she can self-soothe by sucking her fingers).
- Provide a dummy or comforter to help baby to fall asleep without being rocked or held.
- Put baby down while still awake so that she learns to fall asleep on her own.
- Put baby on her back on a firm surface to keep her spine as flat as possible and to allow her lungs to expand fully.
- Make sure that baby's feet are near the end of the cot. This will prevent her from working her way under the covers where she could suffocate.

Everyone has a period of latency before going to sleep, so don't expect baby to fall asleep the moment that she is in her cot. Some babies take twice as long as adults to fall asleep.

Sleep techniques

Desperation often drives parents to try out new methods to get their baby to sleep. The Controlled Crying Method involves tucking her in, saying 'Goodnight'

and leaving the room. If baby is still crying ten minutes later, then the parent can check that she is okay, but must not pick her up or talk to her. Some parents feel uncomfortable with the method and stop after the first or second attempt. However, parents that are mentally prepared for the battle are often surprised by the results. Although some sleep experts do not support the method, research shows that crying for no apparent reason before going to sleep is normal for most babies. Sometimes, babies just need to unwind after a busy day and crying makes them sleepy.

Parent Soothing or the Gradual Retreat Method works on the basis that the parent gradually separates from baby over a period of time. The first stage involves patting or stroking baby until she falls asleep. The next stage involves sitting near the cot while she settles. Over the next month or so, the parent gradually moves away from the cot, until baby goes to sleep by herself.

The practice of sleeping with baby is common to many cultures, but also has its critics. Some argue that baby will find it hard to sleep without the parent, and that sleeping with the adult isn't safe. If baby is premature, of low birth weight, or if the parents have been drinking, taking drugs or are very tired, then it would be better for her to sleep on her own.

Whatever the method used, parents must feel comfortable and confident with it. Babies quickly pick up on stress and this can make them agitated and unsettled.

Principles of sleep

It may be useful to know that babies experience five stages of sleep in each cycle, with each one lasting about one hour. The first two stages involve light non-rapid-eye movement (NREM) sleep, the third and fourth stages involve

periods of deep NREM sleep and the fifth stage involves active rapid-eye movement (REM) sleep. However, very young babies have only two stages of NREM: light and deep.

Babies spend twice as much time in light and active sleep than deep sleep. This means that they wake up frequently during the night. During the first stage of light sleep, baby's muscles relax and her eyelids flutter. She may twitch, grimace, suck intermittently and breathe irregularly. If baby is put in her cot at this stage, she may wake up.

During the second stage of light sleep, baby's limbs are deeply relaxed, her fists unfold and her breathing becomes shallow and regular. However, she can still be aroused at this stage. Very young babies may spend up to twenty minutes in this stage before entering deep sleep. Older babies may enter the deep sleep within a few minutes and they may be difficult to wake up.

After deep sleep, babies enter the frenzied period of active sleep. During this stage, they grimace and fuss, the muscles tighten and jerk involuntarily, the eyes dart about in all directions and breathing and heart rate become irregular.

The period between the end of active sleep and the next cycle of sleep is the most vulnerable one. Baby will wake up if hungry, too hot or too cold or if her airway is obstructed. Waking up is vital to survival. If baby's sleep state was so deep that she could not communicate her needs, then her wellbeing could be threatened. As sleep maturity increases, the vulnerable period between active and light sleep decreases and baby may drift into the next cycle if undisturbed. However, if baby has an infection, is teething or experiencing growth pains, anxiety or separation, her sleep pattern may be temporarily disrupted.

Brain Activity

During the initial stage of light sleep, brain waves slow and roll. During the second stage of light sleep, brain waves resemble a spindle moving across a loom. During deep sleep, brain waves deepen and dreaming may occur, although this is not as common as in active sleep. During deep sleep, pituitary hormones peak, which promote rapid brain and body growth.

The fifth stage of the cycle involves active sleep. In this state, brain waves become erratic and fast. The burst of activity doubles the flow of blood to the brain, which promotes the production of nerve proteins that accelerate brain development. Nerve cells also connect with each other to set up complex networks in the brain and nervous system. Information acquired during the day is also processed, stored or discarded and certain memories are hard-wired. Areas of the baby's brain that control sight, hearing, smell, touch, balance and movement are also active and stimulated.

Scientists have recorded active sleep waves in foetuses from about 28 week's gestation, which suggests that the brain processes experiences in utero. However, the greatest period for dreaming occurs in the first 2 weeks of life. This is hardly surprising considering the explosion of new sights, sounds, tastes, smells and textures experienced after birth.

Staying asleep

The most vulnerable period for waking up is at the end of active sleep. But, if the room is dark and quiet and baby is comfortable, she will go back to sleep again. However, don't expect too much from a young baby in the early days.

If baby is picked up whenever she stirs or makes a sound, she will expect the same treatment every night. If baby should need feeding or a nappy change, keep this as low-key as possible. She will soon learn that night time is for sleeping and day time is for playing. If baby is rewarded with too much attention, waking and play at odd hours may be prolonged into late childhood.

If sleep problems persist, then parents need help to keep going. Health visitors are a good source of advice and support. Alternatively, a sleep clinic may be able to offer a solution.

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