

## About Good Sleep - and How Infants Can Learn To Find It Physiology, Care and Promotion of Sleep Regulation in Children

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*This article offers suggestions for advice that can be offered to young families and the professionals accompanying them to help infants learn sleep regulation.*

### **Primal confidence becomes self-confidence, the importance of self-regulation**

In the womb, a baby is as secure as possible, he or she is completely cared for, the outer world is kept away, the experience of gravity, for example, is largely eliminated. The baby's physical, social, and mental environment affect and care for him or her. From this experience, a sense of primal trust grows in the child. Birth marks the beginning of a unique process of gaining independence and thus of starting development towards freedom. This results in a need for self-regulation. For children, doing things themselves is a fundamental need. The more that children become aware of their self-efficacy and the more they can help shape their own living conditions, the stronger a further power of trust, that of self-confidence, can grow in them.

Important learning steps of self-regulation in infancy mainly concern processes in the area of vital self-regulation: breathing, drinking, eating, digesting, sleeping, warmth. This also includes self-calming (through achieving one's own physical well-being). In childhood, the focus is on the development of emotional self-regulation, such as dealing with joy, grief, fear and anger. In adolescence, these are primarily processes of motivational self-regulation. Now the person increasingly learns to control himself or herself in the areas of attention, interest, motivation, performance, and discipline. Parents in particular have a formative influence on such processes. They are role models, and they play decisive roles in shaping the child's learning environment.

### **The four areas of human life and their significance for sleep regulation**

Every newborn infant must be able to find a good home in three earthly areas of life: firstly, in his own body, secondly in his spatial environment and thirdly in his social environment. The better the child can settle into these areas of life, and the better these areas are cultivated in the child's environment, the more healthily and freely he can develop. This applies to all areas of life.

The fourth area of life, which human beings bring with them when they are born, encompasses their spiritual nature. If this area receives attention and care during life (through meditation, for example) this can also lastingly strengthen the person's health<sup>1</sup>.

This is the basis for the following information on healthy sleep development and therapeutic intervention for sleep disorders. (See <https://www.anthromedics.org/PRA-0657-EN>).

### **Physiological fundamentals of sleep regulation**

Sleep is a life necessity. During sleep, the organism regenerates, healing and upbuilding forces work upon it, and the child's body grows more than when awake. Cognitive and immunological memory depends on sleep, learnt things are tested and stored, the mental experiences of the day are processed. When sleep is disturbed long-term, these essential processes cannot happen in a healthy way. Significant disturbances and symptoms can result, such as agitation, frequent crying, memory and concentration disorders, susceptibility to infections, eating disorders, underweight or overweight, growth and thriving disorders<sup>2</sup>. Sleeping difficulties that occur



already in the first year of life – such as long periods needed to fall asleep, frequent waking up, shortened sleeping times – are associated with abnormalities in emotional and behavioral regulation already in two-year-old children<sup>3</sup>. Sleep disorders in infants also affect the health of their parents, as well as early parent-child bonding<sup>4</sup>.

The need for sleep is very individual and varies from person to person. It is helpful to discover our individual sleeping needs because both too little and too much sleep can have negative effects on our attitude towards life during the day. The night always works its way into our day. Conversely, we know that the day leaves its mark at night and that sleep problems often result from the way a day is organized.

In the first three months, a newborn infant has no discernible sleep rhythm. This begins approximately in the fourth month of life and sleeping times are only shifted more to the night starting from six months. Until then, nightly waking times and several sleep times a day are normal. At the age of one year, a child sleeps on average twice a day. The amount of time spent sleeping varies greatly, ranging from 11 to 17 hours daily. Gradually sleep is reduced to once a day. A midday nap is not a hindrance to falling asleep in the evening if it is offered early enough, so that the waking time in the afternoon is longer than in the morning. Irrespective of sleeping, it is also beneficial for preschool children to have mid-day rests.

Sleep happens in fixed cycles, which are characterized by different deep sleep phases. Between the cycles people almost wake up again. If the person actually wakes up during this phase of superficial sleep, this is not harmful and does not reduce the recovery of sleep. If, however, the person is awakened during deeper sleep phases, this has a harmful effect on health. A sleep cycle lasts about 45 minutes in infancy, about 60 minutes in childhood and about 90 minutes in adulthood<sup>2</sup>. This makes it possible for parents and children to interfere with each other again and again during the deeper sleep phases in very close sleeping conditions (family bed), especially after the first year of life. In addition, physiological awakening between sleep cycles is often associated with crying in the case of infants. This crying does not indicate any discomfort such as hunger or pain. If we wait and see, the child usually falls asleep quickly. If our reaction is too quick and too strong, the child wakes up more and it can become more difficult to establish a rhythm of sleeping and waking<sup>4</sup>.

A regular day-night rhythm (called a circadian rhythm) is developed during the first two years of life. External time indicators, such as light, acoustic stimuli, social attention, food intake and



rituals, help to establish and maintain this rhythm. That is, a healthy circadian rhythm is something that needs to be cultivated.

About 70% of all sleep disorders are not organic<sup>5</sup>. This proportion is likely to be significantly higher in children. Organically caused sleep disorders always require medical clarification. On the other hand, non-organic sleep disorders can be significantly improved through changes in the way people live their lives. Parental counselling is therefore the main focus of interventions in cases of sleep disorders in childhood.

### **Anthroposophical foundations**

From a spiritual-scientific point of view, the sleep processes described above go hand in hand with the fact that the human soul and spirit, whose activity in the waking state of human consciousness makes mental sensations and physical movement possible in the broadest sense, withdraw into the spiritual world of their origin during the night. This is vital, because activity of soul and spirit is associated with degenerative physiological processes, which must be balanced at night by corresponding physical up building processes. At the same time, considerable restructuring processes take place every night. In non-REM sleep, for example (primarily during the first half of the night) certain synaptic connections in the brain are let go of and, especially during REM sleep (in the second half of the night) new soft connections are formed. While the bodily basis for sustainable learning processes is strengthened during sleep, when children awaken they also bring new impulses and forces for orientation into the day from their spiritual home<sup>6</sup>. Although not as intensely as children, we can also experience this as adults when we wake up in the morning refreshed and with new impulses. Our ability to imprint life more and more with our own, unmistakably individual signature – in body, soul and spirit – is essentially due to such night-time processes.

Learning this rhythm of waking and sleeping in childhood is essential for lifelong health. How we shape our day depends on whether our individual soul and spirit can connect to the spiritual world of our origin at night and thus receive the necessary powers of recovery, orientation and individualization. An essential concern of the anthroposophical way of life is to orient human life accordingly.

### **Self-regulation and sleep competence**

Human beings are naturally capable of sleeping. The ability to do this is innate, but sleep regulation must be learned.

Like all areas of self-regulation, healthy sleep cannot happen on command. It is known from developmental psychology that a child develops eating disorders especially when he or she is urged to eat. It is the same with sleep. When a child is urged to sleep, he often develops resistance against situations in which people in his environment expect him to sleep.

Sleep therefore cannot be prescribed, rather the sleep situation must be designed positively and invitingly. It requires an open-ended invitation. Whether the child accepts the invitation or not is ultimately left to the child's autonomy. As adults, we are the creators of this invitation and provide the outer framework. It is important that the signals we give the child are understandable and clear.

Below we would like to offer some suggestions that parents can keep in mind when shaping this invitation in a child-friendly way.

### **1. Physical and physiological conditions for good sleep**

Physical well-being is a basic prerequisite for being able to devote oneself to sleep. For infants and toddlers this includes:

- satiation (without being too full)
- dry diaper
- balanced body warmth

At this age, the ability to regulate warmth is not yet sufficient to maintain the normal human body temperature of 37°C which is conducive to optimal growth and organ maturation. Therefore, the child is particularly dependent on clothing that enables adequate warmth and moisture regulation. On the other hand, care must be taken to avoid overheating or the accumulation of sweat moisture. Depending on the climate zone, fabrics made of untreated and natural materials such as virgin sheep's wool, silk or cotton are suitable.

- Envelopment and boundaries – clothing, swaddling clothes, sleeping sacks

Clothing not only serves the baby as a warming cover, but it also shields him from the environment. Delicate and restrained colors in the sleeping environment help avoid sensations that are stimulating and awakening. Enveloping the baby's little head in a cap can also provide important protection. Finally, it usually helps babies a lot to become quiet if they are able to feel themselves and if they feel held in their involuntary urge to move their limbs (romping, twitching). For this, it is suitable to initially wrap their legs in a diaper or other cloth (known as swaddling – in case of pronounced restlessness also include the arms). Instructions are easy to find on the Internet. When the child begins to turn himself over (at about 4 months of age), we should stop swaddling, because otherwise he will not be able to free himself from a potentially threatening position. Before that, correct swaddling is not dangerous<sup>7</sup>. After those sleeping bags can be used to provide support and cover.

- Safe sleeping position

The safest sleeping position in the first year of life is on the back. Slight lateral tilting by supporting one side or the other with, e.g., a nursing pillow or a towel roll is initially possible, so that the baby's head can fall alternately in one direction or the other and adapt to the corresponding direction.

- Soother (pacifier)



Infants have a natural urge to suck. In individual cases this need can be so great that a soother (pacifier) can promote sleep readiness. On the other hand, the soother may provoke the learning experience that sleep and reassurance can only be achieved with artificial aids. This contradicts the basic attitude that all self-regulation can be learnt in freedom from within, and from a positive example. The soother, once introduced, will be indispensable for a while and there may later often be tears when it comes time to remove it. It is therefore advisable to first enable the child to develop his own calming methods. Most children can do without a soother.

A soother should also not be a substitute for the mother's breast. The baby will benefit from the certainty of knowing that his mother's breast is reliably available. In addition to the breast's great importance for primary bonding and optimal nutrition, it also has calming and comforting functions in later infancy. For self-regulation it is beneficial if falling asleep at the breast does not become a habit and if constant sucking is avoided.

(See also: <https://www.anthromedics.org/PRA-0859-EN.>)

- Regularity and a predictable order of events in the daily routine

Already from the second or third month of life, the baby offers an initial rhythm through nutrition. He wants to be breastfed about every 2–3 hours. This rhythm is still delicate and variable. It becomes stronger if it is taken into account when shaping the daily routine, i.e., when rest periods are not disturbed by external activities such as shopping, visits, etc.). This promotes the development of sleep regulation, which can be verified by a physiological oscillation of hormone levels in the blood. Daily routines that are as consistent as possible (e.g., caregiving – eating – play/exploration – eating – caregiving – sleeping), which also leave enough space and time for transitions, give babies orientation and reliability and thus support the ability to sleep in the rest phases offered.

- Avoid agitation during the day

Night problems are often day problems. Sleep difficulties thus usually require observation and alteration of daily routines. Experiences during the day which unsettle the child due to an excess

of activity and variety (too much), activities that are not age-appropriate (too soon) and too rapid changes (too fast), make imprints on the sleep disorders of the night.

- Rituals give orientation and strengthen rhythm

Children love rituals. Recognizable habits provide orientation, security, and joie de vivre. They lead directly to the well-being of the child by demonstrably influencing internal hormone regulation and thus giving rhythm to the child's physical life processes. Thus, evening rituals such as prayers, verses and singing stimulate the release of the sleep hormone melatonin. Children feel immediately how good rituals are for them, so they never forget them, even in situations where adults think that there is no time left for them. This is because children live completely in the present – the younger they are the more they do. They are not yet occupied with adult target fixation. Thus, children are per se mindful – a quality that stressed adults often seek to regain with difficulty. It is essential that rituals be consistent, do not change too often, be adapted to the age of the child and do not last too long.

## **2. Spatial conditions for good sleep**

Great importance is placed on a well-designed sleep environment today to prevent sudden infant death in the first year of life. The environment can also have considerable influence on the quality of sleep itself. We can pay attention to the following when shaping the baby's sleep environment.

- A safe sleeping place that provides support and borders

The sleeping area will be designed in such a way that the child cannot fall out. It should radiate security, at the same time allowing sufficient air circulation and yet protecting against cold draughts. For this purpose, extra little beds, baskets, cradles, baby beds or similar, with lateral, air-permeable borders are suitable. If the baby sleeps in the parents' bed, this must never be between the sleeping parents in the first year of life, but only next to them (sudden infant death occurs more frequently between the parents). Here, too, care must be taken to ensure that the baby cannot fall off the bed.

From the second year of life (often beginning already from the second half of the first year), the sleep cycles and rhythms of children and parents are so different (see above) that they tend to disturb each other when they share a bed. This can lead to more difficult and less restful sleep for all concerned.

- Protective coverings

A veil draped over the child's bed, whose colors are reminiscent of the security of the womb, for example, can give the baby's eyes support and peace. A sleeping sack, later also a blanket, can in turn provide support and a feeling of spatial security. A firm surface to lie on (mattress) is conducive to the development of the spinal muscles and the child's spatial orientation. A layer of virgin wool fabric is permeable to air and can prevent cooling without provoking heat accumulation.

- Limit stimuli, avoid stimulus over flooding

A fundamental mnemonic can be: peace comes from peace. The sleeping environment should be quiet and dark. However, most children do not like pitch black. Quiet family noises in the background tend to promote sleep, possibly because they convey a sense of security and certainty of parental presence. In contrast, distractions caused by noise, loud music, media, and extreme brightness have been proven to disturb sleep. Mobiles above the bed are more likely to





distract from sleep. They give the baby an incongruent, i.e., contradictory, message. He then lacks the clarity that the place where he finds himself is his place to sleep.

The “calming procedures” that are still widely recommended in blogs and relevant advice literature, such as rocking the baby, jiggling the bed or carriage, rocking on a gymnastics ball or in a suspension device, driving around in a car or pram over cobblestones, etc., may temporarily calm the child due to the distraction caused by these strong stimuli. This is a general principle and is also often done visually with mobile phones, tablets, and television: strong sensory stimuli temporarily make the baby quiet. In the long run, however, they tend to set off a disquieting cascade that requires ever stronger stimuli, making it difficult to learn sustainable self-reassurance skills.

In general, an exciting, eventful day with many impressions continues to have an effect on the child into the night. When the days are overtaxing, this is often reflected in the baby’s restless nights and poor sleep. The baby thus sends a signal to the adults, and it is beneficial when they respond to it and can avoid such excessive demands in the future.

- A sleep-promoting room climate

A well ventilated and not overheated sleeping place is conducive to sleep. It is also recommended to avoid electromagnetic smog.

### **3. Mental and social conditions for good sleep**

An essential prerequisite for the ability to sleep is to feel secure. To develop this feeling and to strengthen it again and again, every person has an elementary need: he wants to wake up where he fell asleep. This is reflected in the measurable brain physiology of the sleep process: adults wake up about 20 minutes after falling asleep, children almost wake up again 8–12 minutes after falling asleep, when they make sure that their sleeping environment has not changed. Only then does the first deep sleep phase begin. To learn positive self-regulation regarding sleep, babies need to wake up where they were placed in their sleeping place. In this way they can come to know and recognize the clear signal that they are being given an opportunity to sleep. The recognizability of the sleeping environment and the experience of waking up there again and again strengthen trust and a sense of security.

Positivity and confidence are important developmental attitudes that the social environment can convey to a baby. With the words “I am laying you down and you may now sleep”, for instance, we can strengthen confidence-building forces and can achieve the necessary quality of offering a free invitation, one that allows space and time to fall asleep, instead of urgent pressure to meet our expectations. The baby thus receives the necessary respect to be able to build confidence in the development of his or her own competencies.

This also includes being able to accept the baby’s aversive feelings, malaise, annoyance, and frustration without wanting to spare him everything. On the one hand, the baby needs the presence and closeness of the caregiver in the sense of a healthy, secure, and protective bond. On the other hand, the development of sleep confidence can be undermined by parents making a habit of “keeping watch” by their child’s crib as he sleeps. This can be temporarily necessary and helpful in some stressful situations. Primarily, however, we can ensure that the baby can learn: my sleeping situation is safe and my attachment to my caregivers is not endangered by sleep. The more certain the baby’s confidence in the bond can be during the day, the more easily this learning step will succeed for the night. Temporary phases of uncertainty are normal in this process.

The following further qualities in the attitude and behavior of attachment figures have a positive effect on a child’s sleep behavior:

- Inner calm

The beneficial effect of our own inner calm indicates the great importance of self-care of our own needs as caregivers.

- Empathetic communication

We tell the baby what we are doing in warm, benevolent language. In this way he feels included and not pushed. We ensure that we express no explanations or fears. Both increase the risk of increased anxiety development in children. Emmi Pikler said: “Our speech should surround children like a warm bath.” Singing or humming at the end of the day has a calming effect.

- Acceptance

Acceptance of one’s own life situation as a whole and of the child’s sleeping needs.

- Honesty

The honesty to perceive, name, recognize one’s own fears, mistrust, anxiety, fear, grief, anger, insecurities and to find one’s own space outside the time of interaction with the child.





- Ability to differentiate

Learning to separate one's own needs from those of the child in all childhood matters.

- Congruence and mindfulness

The baby especially experiences our attention and mindfulness during body care, for example. Caregiving is the everyday, natural field of encounter between parents and child. It also affects the baby on an emotional level and strengthens the experience of bonding. Three caregiving "tools" are used: our hands, our speech, and our gaze. When touch, voice, mood, and gaze speak the same language, the baby responds with cooperation and trust.

"Every caregiving situation should be well prepared, structured and carried out continuously. With your speech you announce every step to your baby, with your gaze you establish a relationship and by touching with your hands your baby can feel held and carried. Everything you do with him you do with enfolding, rounded movements and never sudden jerky ones. Take your baby inwardly along with you in all your actions and by speaking to him. Take the time to take care of your newborn. Give yourself completely to the moment – this does not mean taking time in the quantitative sense. The time span on the watch face is not decisive, taking time means giving attention, radiating calmness, reflecting on essentials<sup>8</sup> ".

#### **4. Consideration of the child's spiritual environment**

The child's spiritual environment can be nurtured by the following qualities, which have been proven to support the sleep confidence of the whole family and thus also of the child:

- Positive thinking

Practicing positive thinking, especially with regard to our child or children, or our partner – avoiding negative evaluations, also inwardly. Strengthening our trust in the spiritual individuality of our child – e.g., looking at our sleeping child can help us to feel his or her spiritual core.

- Prayers and rituals

Prayers and rituals generally have a positive effect if they are accompanied inwardly by a mood of presence and peace ableness – regardless of the religion underlying them.

- Meditation

It is helpful to practice meditation in the sense of calm immersion and possibly concentration on a suitable meditative text. Practice of suitable physical exercises (such as eurythmy movements) can also contribute to inner peace.

- Looking back on the day just ending

Formulating positive questions in the evenings before going to sleep and paying attention to inwardly perceptible "answers" that may come after awakening can strengthen our confidence in our contact with the helping spiritual forces of the night.

- Mindful practice in thinking, feeling and willing

During the day, promoting this contact with the spiritual world at night through people-friendly actions that respect the dignity of other human beings as spiritual individualities, through an idealistic and benevolent attitude towards other people in our speech, and through corresponding values and ideals in our thinking (9).



Finally, here is a prayer that can be said for a child

May light stream into you that can take hold of you.  
I follow its rays with the warmth of my love,  
I think with my thinking's best thoughts of joy  
On the stirrings of your heart.  
May they strengthen you,  
May they carry you,  
May they cleanse you.

I want to gather my thoughts of joy  
Before the steps of your life,  
That they may unite with your will for life,  
So that it finds itself with strength in the world,  
Ever more through itself.

Rudolf Steiner<sup>10</sup>

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