

Newborn and Parent Sleep Approached with Attachment and Entrainment in Mind

1. Sleep for Newborns and Adults
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Navigating newborn sleep is balancing the importance of attachment to your baby as well as knowing how your baby's nervous system is developing and ways you can help entrain sleep.

Attachment: Attachment is a deep and enduring emotional bond that connects one person to another across time and space (Bowlby, 1969; Ainsworth, 1973).

Entrainment: fall gradually into synchrony with a rhythm or something that varies rhythmically

Sleep

The purpose of sleep:

Newborns:

1. Sleep is the foundation for growth and development of the brain.
2. Sleep enhances learning.
3. During sleep, growth hormone is released.
4. Dreaming. Right from the start your newborn is dreaming.

Adults:

1. Sleep is important for keeping memories.
2. Sleep keeps your brain working.
3. Sleep gives you energy.

The stages of sleep:

Non-REM Sleep: There are three categories of N-REM sleep including N1, N2, N3. N1 is the transition from being awake to falling asleep and if you wake up from N1 you may not realize you were even asleep (but you were!). N3 sleep is deep sleep and the most difficult to wake from.

REM Sleep: We dream during REM sleep. Our temperature goes up during REM sleep.

In newborns REM sleep is “active sleep” and babies smile, frown, suck and twitch. Newborns can appear restless but they are sleeping. It is easiest to wake a baby from REM sleep.

In newborns Non-REM sleep is “quiet sleep” and babies sleep peacefully.

REM Sleep = Dream Sleep = Active Sleep

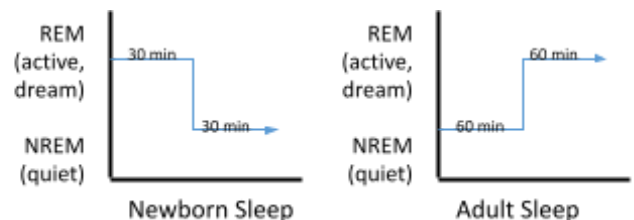
Non-REM Sleep = Quiet Sleep

Sleep Cycles:

For *newborns* one sleep cycle is ~1 hour. For *adults* one sleep cycle is ~1.5-2 hours.

Adults start with Non-REM sleep for ~ 1 hour and then go to REM sleep.

Newborns START with REM sleep or active sleep for ~30 minutes then go to quiet sleep.



Newborns sleep 1-3 hours and are awake 1-2 hours.

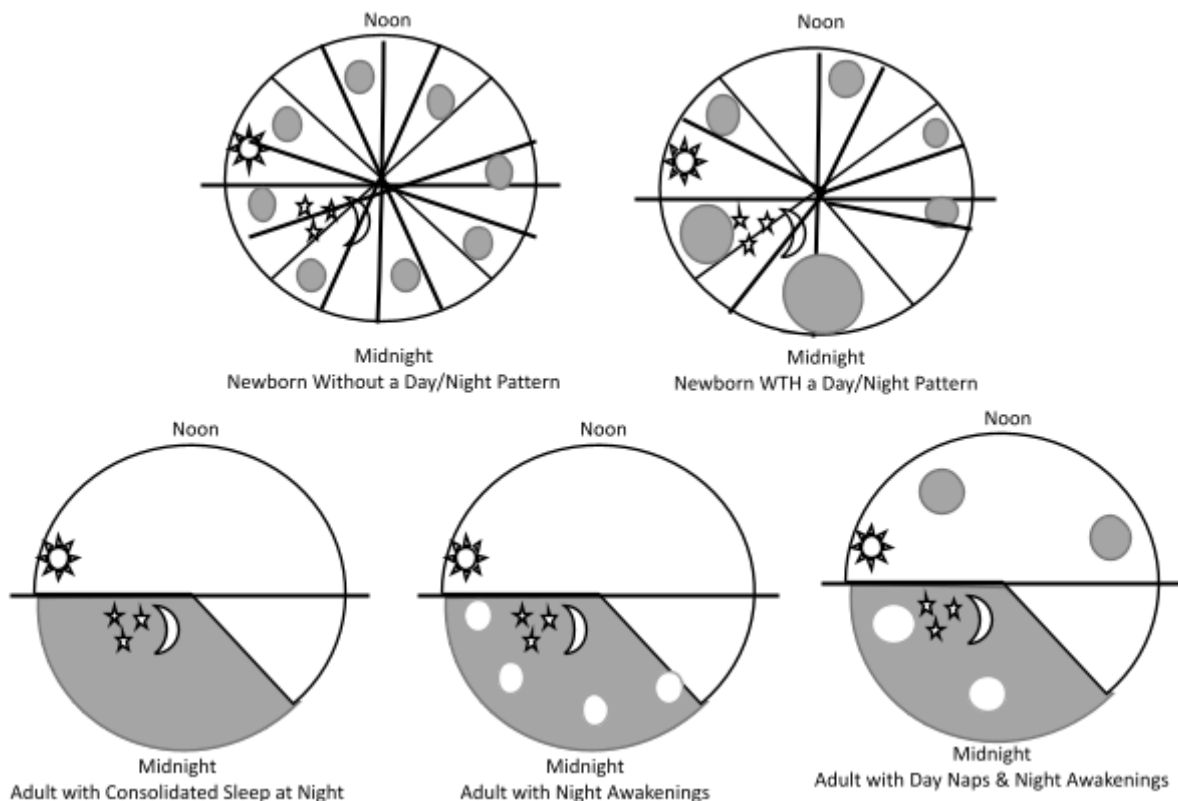
For the first 2 months, newborns do not have a strong day versus night pattern, however, *LIGHT EXPOSURE* first thing in the morning *HELPS SET* a sleep-wake cycle so newborns start to understand day versus night. Consider an early morning walk, a

sunny breakfast with your baby and keeping the shades open during the morning hours. Also remember to keep it dim during the evening and dark at night for both you and baby. Don't turn on bright lights at night. At night, use just enough light for you and your baby to navigate.

Sleep Amount: Newborns sleep ~14 hours per day, sometimes a little more or less.

Sleep Goals: From 0-6 months the goals are that your baby is well attached and entrains sleep. With a good attachment, your baby feels bonded, secure. With entrainment, your baby learns to sleep in a continuous period (sleep consolidation) and can fall asleep and go back to sleep (sleep regulation).

Sleep Over 24 Hours:



What happens to our brains when we do not get sleep? Parents with a newborn know that despite their baby sleeping 14 hours per day they often feel sleep deprived. Chronic sleep loss impacts the following parts of the brain the most.

1. Prefrontal Cortex – area for complex thinking, “executive functions” such as organization, decision making, attention, judgment, motivation.
2. Amygdala – area for emotional response control
3. Striatum – area for control of reward-driven behaviors

These combinations could make it difficult to get things done, cause irritability, frustration or being emotionally out of control. Sleep loss can also impair judgment, motivation, stability and balance in thinking.

Sleep Behavior for Newborns

Safety:

1. Position: Babies should lay on their backs to sleep.
2. Surface: The surface should be firm with a tight fitting sheet. NO pillows, loose blankets, toys or hanging mobiles.
3. Environment: Cool temperature, dark, quiet, no tobacco smoke.
4. Room sharing over co-sleeping: For safety babies should sleep in their own space and not share a bed. Room sharing is encouraged. Keep your baby near your bed and in a safe baby bassinet.

Sleeping Location:

Some newborns sleep in a parent's room, share a room with another family member or have their own room or space. Each of these is okay as long as the bedding is safe and the environment is cool, dark and quiet. Consider having a long term sleeping location established by 6 months.

Signs of Sleepiness: What is your baby's sleepy "tell" / revealing behavior?

Eye rubbing, gazing off, fluttering eyelids

Irritable, fussy

Yawning

Fists are closed

Back is arched

Change in facial expression

Tugging at the ears

Arms and legs are making jerky movements

Pushes away

Less vocal, quiet, acting bored

Sleep Schedule: Keep a consistent schedule for naps and bedtime. Try to keep the bedtime within 1 hour of the same time each night.

Sleep Milestones:

Zero to two months: Newborns may need attachment and co-regulation to fall asleep.

There is evidence for rhythms in activity in utero - there is a maternal clock, placental clock and embryo clock. From birth to 2 months of age there are fewer circadian markers. At about 2 months of age melatonin, cortisol patterns, and body temperature variation begins. Light is the primary zeitgeber ("time giver") impacting the alignment and entrainment of the circadian rhythm. Melatonin is the other primary zeitgeber / time giver.

Two months old: Start to lay your baby down in the crib drowsy but awake so they can learn sleep regulation by starting with co-regulation and moving to self-regulation over time. It is also a good time to set a clear bedtime routine. Bedtime routines can include dim light, reading, massage, music, rocking and possibly a transition object like a pacifier. The bedtime routine should be an experience that is unique to bedtime.

Five months: Babies can sleep 5 hours in a stretch at night without needing to feed. They still have 1-hour long sleep cycles and may wake up briefly after each cycle but hopefully return to the next sleep cycle easily. Most babies wake up about 4 times per night. Ideally they will have good sleep behaviors, be awake briefly and then be able to soothe themselves back to sleep. Babies who use pacifiers as a transition object can usually find their own pacifier in the middle of the night. Some parents make it easier by keeping a few extra pacifiers in one corner of the crib or sprinkled around the crib.

0-6 weeks old: wake and sleep patterns are randomly distributed

6-8 weeks old: longest sleep period is more likely to occur at night

Baby starts to produce melatonin and respond to light and activity entrainment (wake, feed, play, cuddle, sleep, repeat)

4 months old: longest wake period is more likely to occur during the day

5 months old: baby can sleep a consolidated 5 hour stretch or longer

6 months old: the longest sleep time immediately follows the longest awake period

6-12 months old: circadian rhythm established with consolidated wake periods and consolidated sleep periods

At 4-12 months of age babies should get 12-16 hours TST

1. Parmelee AH, Stern E. Development of states in infants. In: Clemente CD, Purpura DP, Mayer FE, editors. Sleep and the maturing nervous system. New York; Academic Press; 1972

2. Coons S. Development of sleep and wakefulness during the first 6 months of life. In: Guilleminault C, editor. Sleep and its disorders in children. New York; Raven Press; 1987.

Newborn Sleep Behavior Do's:

DO expose your baby to light during the day, especially first thing in the morning.

DO keep the lights dim in the evening and dark at night.

DO help your baby develop a sleep routine.

DO help your baby develop a sleep schedule for naps and nighttime sleeping.

- DO** allow your baby to nap as needed during the day. Sleep begets sleep.
- DO** engage in playing, active reading, talking, exercise and fun during the day when your baby is awake.
- DO** be present for your baby when needed at night but be low energy. Don't engage in active playing in the middle of the night.
- DO** respond to your baby's needs.
- DO** help your baby tell you when it is time for sleep based on signs of sleepiness.
- DO** provide your baby with a cool, dark and quiet space to sleep.
- DO** have a safe sleeping position and surface for your baby.

Ask your baby's medical provider if your baby is extremely fussy or waking up a lot because your baby could have a medical problem such as a formula sensitivity, acid reflux that is worse when baby is laid flat, a sleep-related condition or colic. Also talk with the provider if your baby has breathing problems while sleeping. It may help to record a video of what you hear and see that concerns you and then take the video show your medical provider.

Sleep Behavior for Caregivers

Caregiver Sleep Behavior Do's:

- **DO** keep a regular schedule. The most important time to keep the same is the time you wake up for the day. Your waking time should be within 1 hour of your set time every day of the week.
- **DO** get light exposure first thing in the morning. Along with having a set waking time you should try to get sunlight or bright light exposure first thing in the morning to set your day-night cycle.
- **DO** have a sleeping environment that is cool, quiet and dark.
- **DO** sleep when your baby sleeps. Taking a nap during the day will help compensate for sleep loss overnight. Realize even if you lay down and rest with your eyes closed for 1-2 hours while your baby sleeps that you may get some N1 sleep even if you do not feel fully asleep. Also remember that your sleep cycle is 1.5-2 hours long so if your baby falls asleep, lay down at the same time so you optimize your chance of a full sleep cycle instead of a 20 minute snooze.
- **DO** avoid caffeine, nicotine and alcohol which interfere with good sleep.
- **DO** create a relaxation routine to get ready for sleep.
- **DO** set a wake up routine. Maybe your alarm will wake you up to radio music you enjoy as a nice distraction from feeling sleepy. Maybe you will go for a walk, stretch, get a warm or cold drink or anything else you would enjoy as a wake up routine.

Sleep Thoughts

*Sleep behaviors are important for good sleep.
Sleep THOUGHTS are also important for good sleep.*

- Recognize if you are getting frustrated and understand it is normal to feel frustrated with sleep problems and lack of sleep.
- Be realistic in your expectations. Training yourself and your newborn to have good sleep will take time and there will be setbacks.
- If you have a bad night do not let it consume you. Shake it off. Remind yourself that your persistent work will pay off in the long run.
- Realize that lack of sleep will be to blame for some problems but not all problems.
- Give yourself credit for the difficult work of entraining newborn sleep while also prioritizing and maintaining good attachment.
- Try to be mentally flexible and open to different sleep strategies.
- Remember that it is normal to be sleepy for 30-60 minutes after waking up and in the early afternoon after lunch. This is normal and so try to focus on getting started with your day or afternoon and pushing past this less wakeful time.
- Don't expect that you will have a terrible day if your sleep was poor the night before. Otherwise your negative feeling may over-influence the day and make the day negative.
- Give yourself credit and positive encouragement when you do a good job getting out of bed or making the most of a day despite feeling tired.