

Pediatric Sleep Disorders: Nightmares, Breath-holding Spells and Infant Colic

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Infants are likely to undergo sleep problems especially during the first year of life. Nightmares, night terrors, infant colic, and breath-holding spells are common sleep issues. While nightmares may occur at any age, the night terrors, on the other hand, are typically observed during 3–8 years of life. Approximately, 28% of infants are affected by colic. It leads to intense crying episodes in infants who are 1–6 months old. A breath-holding spell is a non-epileptic disorder of benign nature.



Normal Sleep

Infants, just like adults, have **various sleep stages**. Active movement or lying still during sleep depends on the sleep stage. The sleep pattern in infants usually develops towards the end of pregnancy. Normal sleep circadian rhythm and cycles with REM are established at 3 months after birth. Most infants sleep through the night by 3 months of age; however, allowing co-sleeping may delay full night sleeping.

There are **two types of sleep**: REM and Non-REM sleep.

1. REM (rapid eye movement) sleep

There are **rapid back and forth eye movements** during REM. It is the REM stage where dreams occur. Newborns sleep for about 1 hour per day. Half of this sleep is REM sleep. Older children and adults, however, spend less time in REM.

2. Non-REM sleep

This type of sleep has 4 stages:



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Stage 1 is composed of dozing, eye dropping, and drowsiness. The baby may open and close his eyes.

Stage 2 is a light sleep period. Some movements are seen and baby may frighten or jump at sounds.

Stage 3 is composed of deep sleep. The baby is quiet, and no movements are seen.

Stage 4 is a period of very deep sleep. The infant is quiet and no movements are seen.

As the baby sleeps, he moves to stage 2, 3, and 4 of non-REM sleep. The cycles are reversed after stage 4. The baby now moves from stage 4 to stage 3, stage 2 and then REM sleep. This cycle is repeated many times during sleep. Babies often have difficulty in going back to sleep as they move from deep sleep to light sleep.

High Yield: Sleep hygiene is important for better sleep, as well as a certain bedtime routine. Rocking the baby to sleep may make the baby need to be rocked, to go to sleep. Crib hygiene is necessary to prevent SIDS.

Nightmares

Nightmares can occur at any age, and they equally affect both boys and girls. **While they occur in REM sleep, nightmares mostly happen in the last one-third of sleep and awaken the child.** The child remembers episodes from these nightmares; however, it can be consoled.

Helping a child with nightmares

Nightmares cannot be prevented; however, parents can reassure that their child is not stressing over the last night's nightmare. Some of the methods to help such a child are:

- Reassuring the child
- Cuddling helps
- Let the child speak about the bad dream
- Read stories on how to get over night-time fears
- Providing a security blanket to the child is also helpful
- Never close the door on a child who is fearful

Night Terrors — Definition and Causes

Night terrors are experienced by approximately 1–6 % of the children in the age group 3–8. The peak onset of night terrors is seen at 3½ years of age. Night terrors are more common in boys as compared to girls. They occur during non-REM sleep and do not awaken the child. The child has no memory of the night terror. They are typically seen after almost 90 minutes of sleep and therefore occur as the sleep cycle moves from stage 3 to stage 4 of non-REM sleep.

A child frequently cries during these episodes; however, **it is difficult to arouse the child at that time as he does not respond to any stimulus after these episodes.** Often tachycardia, tachypnea, and sweating are seen during these episodes. The episode of night terrors may last up to 30 minutes; however, the child usually returns to the relaxed state within 2 minutes.

The issue of night terrors runs in families. Mostly, the cause is unknown, but night terrors can sometimes result from fever, medication affecting CNS, lack of sleep, and stress.

Read more about the common causes of night terrors.

Nightmare versus Night Terrors

Nightmares	Sleep terrors
Any age	Age 3-8
Boys = girls	Boys > girls
Occur in REM	Occur in non-REM sleep
Occur in last 1/3 of sleep	Occur in first 1/3 of sleep
Child awakens	The child appears awake but isn't
The child can be consoled	
Child remembers episode	No memory of the episode

Infant colic

Approximately, 28 % of infants are affected by colic. It leads to stress and frustration for both parents and healthcare providers.

Infant colic is characterized by the following features:

- Intense crying episodes in infants who are 1–6 months old
- The child is not consolable with normal interventions
- Crying episodes occur typically at the same time of the day

- Crying starts around 2—6 weeks, may start and/or stop quickly
- Crying is not attributed to another cause

Rule of 3 for infant colic

There are 3 rules stated, concerning infant colic:

1. The crying lasts at least 3 hours per day
2. The crying occurs on more than 3 days per week
3. The crying is present for at least 3 weeks

Risk factors for infant colic

Mothers who smoke during and after pregnancy have a greater risk of having a child with infant colic, but there are some more pathological causes of excessive infant crying:

- Non-accidental trauma
- Cardiac issues
- Reflux
- Infections
- Formula allergy
- Muscular pain due to immunizations
- Insect bite
- Hair tourniquet resulting in strangulation
- Corneal abrasions
- Surgical issues such as volvulus, intussusception, and inguinal hernia

Management of infant colic

The first thing to do when dealing with infant colic is to rule out other causes of crying episodes. Changing formula rarely helps. **Acknowledge parental frustration and screen for child abuse.** The baby should be fed upright with frequent burping.

Some more detailed treating steps are:

- Reduce extra stimulation
- Soothing music, swaddling, massaging, and rocking are helpful
- Use of pacifier may help
- Medications are not recommended unless GERD adds up to the problem
- Follow-ups are essential
- Educate parents on the fact that they should not exhaust themselves. It is better to leave the child with a caretaker for a short while

Breath-holding spells

A breath-holding spell is a non-epileptic disorder of benign nature. It occurs in otherwise healthy children who are 6 months to 4 years old. It is estimated that almost 5% of children have this issue.

There is usually a paroxysm of a breath-holding spell. The episodes are **triggered by some minor injury or an emotional upset and can take the form of holding breath, cyanosis, and even syncope in case the child holds the breath for a longer duration.** Seizures are also seen in rare cases right after the child gains consciousness. Apparently, a breath-holding spell is frightening to watch; however, breath-holding spells are not usually harmful or related to long-term risks.

The mechanism behind it is that crying leads to apnea. Apnea leads to color change and loss of tone, which, in turn, leads to a loss of consciousness.

Types of breath-holding spells

There are 2 types of breath-holding spells:

1. **A cyanotic spell:** Nearly 85% of the breath-holding spells are of a cyanotic type. It is seen when a child changes his usual breathing pattern in response to anger or frustration. The holding of breath causes cyanosis and hence the name cyanotic spell.
2. **A pallid spell:** It occurs as a result of the slow heartbeat in response to pain or a scary situation. The child turns pale during such an episode.

Investigations of breath-holding spells

Once breath-holding spells are clinically diagnosed, **an electrocardiogram is recommended**. Also, anemia, specifically iron deficiency anemia, should be ruled out.

Management of Pediatric Sleep Disorders

There are 3 general steps to follow:

1. Offer **supportive therapy** for parents, including an emphasis on the benign nature of the problem.
2. **Prescribe iron supplements** even if anemia is not detected. Iron helps in reducing the frequency of breath-holding spells.
3. **Educate the parents on how to manage tantrums.**

References

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