

# On the Uptake

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## A Good Night's Sleep for Children with Disabilities

A good night's sleep for children with disabilities can be challenging for children and parents alike. The right strategy can improve sleep for better nights and better days.



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Sleep is important for our health and well-being, specifically important for children's growth and development, their immune system, their mood, behavior, memory and learning. A good night's sleep will help children function well during their daytime activities.

The National Sleep Foundation recently published the recommended sleep

duration for children of all ages (Hirshkowitz, Sleep Health, 2015). The recommended sleep duration for newborns is 14-17 hours, while for school-aged children, 9-11 hours is recommended. Children with cerebral palsy or other disabilities require the same quantity and quality of sleep as do typically developing children.

Although sleep problems are common in both typically developing children and children with neurodevelopmental disabilities (NDDs), children with NDDs

have a higher risk of having sleep problems. Up to 90% of children with NDDs have a sleep problem as compared to up to 25% of typically developing children. Notably, rates of sleep problems in children with cerebral palsy (CP) are higher than in typically developing children (26-33%) but not as high as children with other NDDs.

Sleep problems in children with CP are multifactorial (from many different causes related to their disabilities).

## What is the recommended sleep duration?

Age Group	Recommended sleep duration (hours)	Not recommended (hours)
Newborns	14 to 17	Less than 11 More than 19
Infants	12 to 15	Less than 10 More than 18
Toddlers	11 to 14	Less than 9 More than 16
Preschoolers	10 to 13	Less than 8 More than 14
School-aged children	9 to 11	Less than 7 More than 12
Teenagers	8 to 10	Less than 7 More than 11

### Conditions that may make sleep more difficult/disturbed for children with Cerebral Palsy or other disabilities:

1. Impaired movement/muscle spasms/inability to walk or move independently. Some children with CP may not be able to walk or move on their own; these children require assistance by their parents/caregivers during the night and may need to be repositioned during the night to help with discomfort or to prevent bedsores.
2. Seizure disorder: Seizures can disturb sleep and may cause awakenings from sleep.
3. Sleep-disordered breathing: Some children may have upper airway obstruction leading to snoring and respiratory pauses during sleep (obstructive sleep apnea); children often have restless sleep/awakenings from these breathing disturbances during sleep.
4. Pain and discomfort: Some children may have pain/discomfort from muscle spasms/spasticity or from orthotics worn during sleep.
5. Gastroesophageal conditions/ feedings: Pain (and therefore awakenings from pain) can occur from episodes of gastroesophageal reflux. Some children with CP have gastric tube feedings and these feedings can delay sleep onset and/or interrupt sleep.
6. Administration of medications can interrupt sleep.
7. Other conditions that can interfere with sleep are Attention-Deficit Hyperactivity Disorder (ADHD), autism, intellectual disabilities and sensory deficits, which may lead to sleep difficulties.
8. Visual impairment: Children with visual impairments/blindness may have delayed release of melatonin, a hormone that influences initiating and maintaining sleep.
9. Psychological/Behavioural Factors: Some children with CP have psychological/behaviour problems (including irritability, oppositional behaviour, inattention and anxiety).

### Strategies for improving sleep in children with Cerebral Palsy or other disabilities:

It is important to try to improve sleep issues as poor sleep may affect the family's sleep and family's functioning and quality of life. First line treatment of sleep problems in children is behavioural/environment interventions. In some children, behavioural interventions may not be completely successful on their own, and some children may thus require prescribed medications for a short period of time to help with sleep issues (such as melatonin, or other sleep inducing medications). It is important to note that medications for sleep in children are generally not approved by the FDA and should be used with caution and in consultation with your child's doctor. More research is needed to determine the efficacy and safety of medications for sleep in children with neuro-developmental delays.



Childhood disability LINK is a bilingual website linking Information and New Knowledge on childhood disability to service providers and families. The website also focuses on enhancing the awareness and understanding of research on a variety of issues in childhood disability. Please visit us at: [www.childhooddisability.ca](http://www.childhooddisability.ca).

### Here are some tips/strategies to help your child to obtain a better quality of sleep:

- Establish a sleep routine (regular bedtime and wake time, bedtime routines).
- Improve your child's sleep environment: comfortable room temperature, reduce noise; dim lighting; reduce/avoid caffeine; use special beds/bedding; special equipment in consultation with your child's occupational therapist and/or doctor.
- Incorporate relaxing activities before sleep including reading, soft music, massage.
- Avoid stimulating activities before bedtime (including screen time – video games, television, videos, etc).
- Bundle care activities (diaper changes/medications, feedings, repositioning) to help avoid frequent interruptions/scheduled awakenings.
- Consult your doctor to diagnose and treat underlying conditions (medications for seizures, reflux and/or muscle spasms; treatment for obstructive sleep apnea).

### Want to learn more on the topic? Suggested readings:

- <https://sleepfoundation.org/>
- Hirshkowitz et al., National Sleep Foundation's sleep time duration recommendations: methodology and results summary. *Sleep Health*. 2015; 1 : 40-43
- Galland BC, Elder DE, Taylor BJ. Interventions with a sleep outcome for children with cerebral palsy or a post-traumatic brain injury: a systematic review. *Sleep Med Rev*. 2012 Dec;16(6):561-73.
- Simard-Tremblay E, Constantin E, Gruber R, Brouillette RT, Shevell M. Sleep in children with cerebral palsy: a review. *J Child Neurol*. 2011 Oct;26(10):1303-10.

### Take home points for families

- Speak to your doctor if you are considering sleep medication
- Quality of sleep can improve when you find the right strategies for your child's needs.
- Obstructive sleep apnea is thought to be more common in children with cerebral palsy. It is characterized by upper airway obstruction during sleep. Families often report noisy breathing and loud snoring during sleep, waking periods, pauses in respiration, and daytime somnolence.
- The 3 most predictive symptoms associated with obstructive sleep apnea are loud snoring, difficulty breathing during sleep, and sleep related pauses in breathing (apnea) witnessed by the parents.

### Take home points for clinicians

- Medication for sleep in children are generally not approved by the FDA and should be used with caution
- Children with cerebral palsy are thought to be at higher risk for sleep related breathing disorders, especially obstructive sleep apnea syndromes
- The gold standard measurement tool for the diagnosis of obstructive sleep apnea remains polysomnography. Actigraphy represents a good alternative to obtain objective sleep measurements at home in the child's usual sleep environment.
- Adenotonsillectomy remains the most common treatment in obstructive sleep apnea for all children with adenotonsillar hypertrophy, including those children with cerebral palsy.
- Clinicians should always inquire about the effect of the child's sleep problem, if present, on the family.