



CEREBRAL PALSY AND SLEEP IN CHILDREN

Important things to know about cerebral palsy and sleep

- Sleep problems are frequently experienced by children with cerebral palsy (CP)
- Difficulties initiating and maintaining sleep are the most common sleep problems for children with CP
- Pain is the strongest factor associated with sleep problems in CP
- Sleep problems can have a negative impact on daytime functioning and behaviour in children with CP
- Interventions addressing behaviour and sleep positioning can be used to improve sleep in children with CP
- If these interventions are unsuccessful, medication may be prescribed by a medical practitioner to help with sleep

Cerebral palsy (CP) is the most common form of childhood disability in Australia. It is a permanent, physical disability that affects movement and posture. It occurs due to some type of injury affecting the developing brain, but there are multiple possible causes, and for some children with cerebral palsy, the precise cause is unknown. There are many types and severities of CP and therefore each person is affected in different ways. It is common to have associated problems, all of which may affect sleep.

Between 23% to 46% of children with CP experience sleep problems. Individuals with CP who are unable to walk without assistance have the greatest risk for, and severity of, sleep problems.

The most common sleep related problems include difficulty with both sleep initiation and sleep maintenance. Further problems reported include:

- Sleep-wake transition difficulty
- Teeth grinding
- Sleep breathing problems such as obstructive sleep apnoea
- Nightmares

Factors impacting on sleep in CP

Pain is the strongest factor associated with sleep problems among children with CP. Other factors impacting on sleep include mobility impairment, spasticity and tone, sensory processing difficulties and visual impairment.

Spasticity, which many people with CP experience, can cause muscle spasm and pain. Children with CP are prone to other forms of musculoskeletal pain due to stiffness of joints and secondary bony changes. A decreased ability to move and change posture overnight also impacts on comfort, pain management, pressure areas, and sleep.

Some individuals with CP who have excessive movements or difficulty repositioning overnight may be at risk of falls from bed. Some individuals with CP may experience settling or sleeping difficulties relating to use of nighttime splinting (i.e., devices that support and position a joint or muscle), so they should be used with caution and in consultation with a clinician.

Individuals with CP have an increased incidence of epilepsy which can also disrupt sleep (see Epilepsy and Sleep fact sheet for more information).



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Melatonin is a hormone produced to regulate our sleep-wake cycle. Its production is reduced by being in bright light during the day. If severe visual impairment is present in CP, then this can impact on the body's ability to respond to environmental cues such as light to control melatonin release and suppression. As a result, maintenance of the sleep wake-cycle can become disrupted in these individuals and lead to sleep difficulties.

Sleep difficulty can impact on daytime functioning and behaviour for children with CP and have wider effects on parental sleep and mental health, and family functioning. Thus, identifying and managing sleep problems is of great importance.

Assessment of sleep problems

This includes a detailed history of sleep problems, use of sleep diaries and standardised questionnaires. In some cases, sleep studies may be recommended (see our Sleep Study fact sheet for more information).

Interventions to improve sleep

Review of tone management and potential sources of pain are important factors to consider when determining the most appropriate intervention for sleep difficulties in children with CP.

Maximising good sleep hygiene (see our Sleep Tips For Children fact sheet) can help individuals with CP develop positive sleep behaviours. Some important aspects of sleep hygiene are:

- ensuring adequate sunlight and exercise in the day
- sleep settling routine
- minimising screen time in the hours before bed

Attention to lighting, bedding and positioning, particularly for those with mobility concerns, is also important.

Sleep positioning systems can be of benefit to some individuals and prescribed with the assistance of an occupational therapist or physiotherapist. The NDIS (National Disability Insurance Scheme) can support this process.

Medication

Depending on the situation, medication may be of benefit for some children with CP who are experiencing sleep problems. In particular, melatonin may assist with regulating the sleep-wake cycle.

Medication to manage muscle tone may also have secondary benefits of assisting with sleep and settling.

If you have any concerns regarding sleep, please seek out assistance of your General Practitioner, Paediatrician or Sleep physician. Your allied health team can also assist with sleep hygiene and routine.

Useful links:

<https://cerebralpalsy.org.au>



www.cpec.org.au

This fact sheet has been produced by the Sleep Health Foundation in partnership with The Cerebral Palsy Education Centre (CPEC).

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