

The Child Brain Injury Trust is a national charity supporting anyone affected by childhood acquired brain injury. The following information has been developed to help the reader understand more about brain injury and some of the associated issues. Every effort has been taken to ensure the information is accurate and up to date.

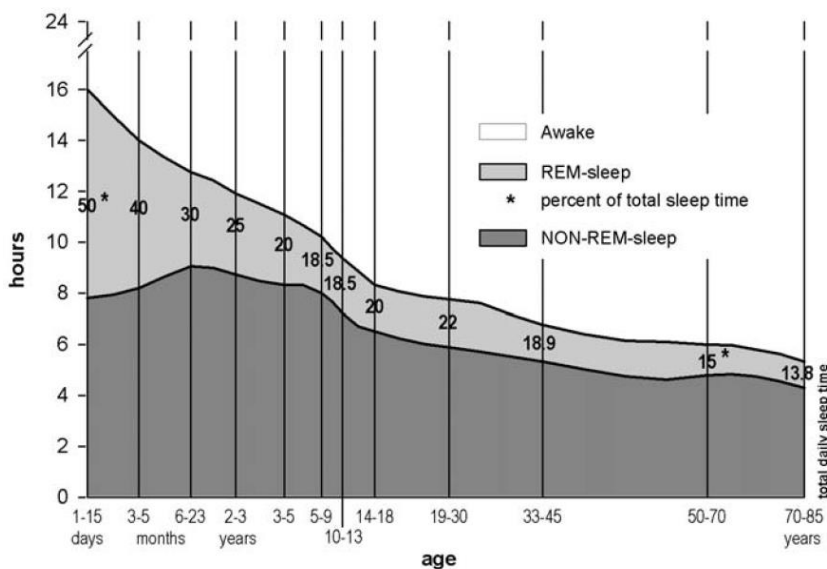
The Child Brain Injury Trust has a library of e-learning (webinars) available without charge covering a wide range of topics. Please [click here](#) and you will be taken to the library where there is a session on **Sleep following ABI**

Sleep After ABI

Why is sleep important?

Sleep is essential to life and comprises about one third of our activity over the course of our lives. Without it we will gradually fail to function properly at all levels and, if we do not sleep at all for a long time, we would eventually die. Although we do not yet know how precisely, sleep has a restorative quality and dreaming sleep appears to be involved in the consolidation of memory and learning.

How much sleep do we need?



Roffwarg et al 1966

Studies of how much sleep we need show that this varies with age. Babies and very young children need more sleep and often at multiple times during the day (i.e. they may sleep in the morning and in the afternoon as well as at night) than older children and adults.

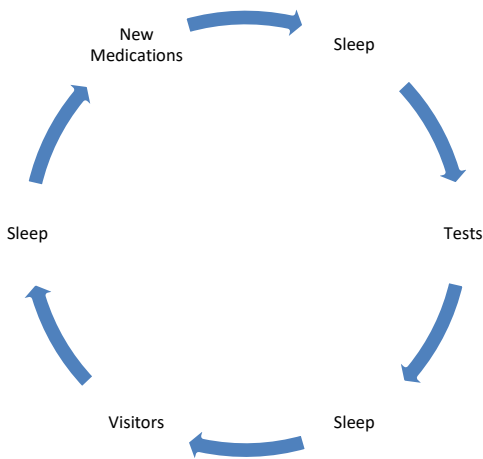
Although there is always variation between one person/child and another, here's a general guide to how much sleep we need depending on our age:

Age	Average amount of sleep needed
Infants (3-11 months)	14-15 hours
Toddlers (12-35 months)	12-14 hours
Pre-schoolers (3-6 years)	11-13 hours

School age (6-10 years)	10-11 hours
Adolescents (11-18 years)	9-10 hours
Adults	On average 8 hours
Older adults	May need less sleep

Why does Acquired Brain Injury affect sleep?

Studies show that injury to the brain can disrupt the sleep-arousal brain system so that normal sleep patterns are altered and the quality of sleep is affected and sleep is disturbed. This is especially so for children with more severe neurological problems but it is also possible that those with a mild injury may also not sleep as well.



It's also important to remember that following an acquired brain injury the usual sleep pattern can get interrupted as a result of a long stay in hospital. For example, a child may well be in intensive care for some time. Perhaps after an initial coma following the injury/operation, they may be kept in an induced coma in order to help their recovery. They may be woken at regular times through the day and night in order to undergo certain important procedures. Once this is over, their sleep/wake cycle may be controlled by drugs, particularly if they are confused and disorientated. This can all impact on a child's normal sleep pattern.

What does this mean when my child gets home?

This all means that once your child has recovered enough to return home their sleeping may continue to be disrupted. Studies show that for parents sleep disturbance is one of the principle issues along with mood and behaviour problems following childhood brain injury.



How will I know if my child is not sleeping well?

It is important to remember that after brain injury, your child may feel very tired. As a result one of the first things you might notice is that your child complains that they are tired all the time, even if they are apparently going to bed and sleeping adequately. This is partly because the physical process of healing takes up a lot of energy and partly because your child's brain is now having to work a lot harder even on things that they enjoy doing. S/he may actively have to concentrate a lot on things like how to walk, finding the right words when talking, paying attention to what is important and other skills that were automatic before.

You may also notice that your child's bedclothes are more untidy and tumbled about in the morning than they used to be and this may be a sign that the pattern and quality of their sleep is disrupted.

Different types of sleeping problems

Aside from disruptions to the quality of children's sleep, there are often more obvious sleep problems associated with the following difficulties:

- Going to bed, e.g. refusal to go to bed, not feeling sleepy before bed, anxiety about and avoidance of going to bed.
- Going to bed but not sleeping.
- Waking in the night.

These difficulties are likely to have an impact on your energy levels and sleep, as you might not be able to get to bed early enough to have a good night's sleep, or maybe you are woken in the night when they wake, either because they seek you out or because of the noise they make when they are awake.

What should I do?

Here are some basic suggestions:

Environment

- Make sure the child has a comfortable bed
- Preferable to have thick curtains that don't let in light
- Use a duvet or bedcover suitable to time of year
- Make sure there is a reasonable room temperature
- The bedroom should be free of any visual or audio stimulus, making sure the room is a place for sleep. We would recommend that that this includes the removal of a computer or television from the bedroom. If there is a TV / technology in the bedroom, they should not be used as a tool to help a child fall asleep.
- Turn the light off or leave only a low light to reassure nervous children.

Settling

- In the hour before bedtime, make sure activities are calm and quiet.
- Establish a regular bedtime routine, so the child knows (1) what to expect at bedtime and (2) that this is the start of going to bed and going to sleep.
- Keep to an agreed bedtime - even at weekends.
- If the child is distressed about being left, then sit quietly by the bed to reassure them until they fall asleep.
- If you can see that your child is worrying about going to bed and not sleeping, it can be helpful to come up with a plan together about ways of relaxing their body and mind that can be practiced and used routinely. Some ideas include:
 - A warm (not hot) bath.
 - Milky drink before bed, only if part of normal routine (milk can act as stimulus to digestive system).
 - Listening to a story or music at bedtime.
 - Remembering their favourite memory or place or holiday and thinking about this as they fall asleep. It can sometimes be helpful for your child to draw their favourite memory and have this drawing by their bed so that they can look at it as they fall asleep.
 - Learning to relax their muscles in bed, e.g. clenching and relaxing the hands, pointing the toes upwards and relaxing them, hunching the shoulders and relaxing them, tensing the tummy muscles after breathing in and relaxing them after breathing out.

Night waking

Ensure that they do not turn on the TV or computer. Prompt them to engage in calm, quiet activities like reading a book, relaxing their muscles, breathing in and out slowly and thinking about their favourite memory.

It is usually not a good idea to let crying children go on for too long so go to them. Sit by them quietly to reassure them, either until they fall asleep or until you can see that they are calm, relaxed and sleepy. Although this is tempting if they are little or are very distressed, do not take them to your room unless this is really what you want. It may set up a comforting pattern that is difficult for you and your child to get out of at a later date.

Tiredness during the day

If you notice that your child is tired during the day because their sleep is disturbed at night and / or because they are still recovering and their brain is having to work hard all of the time, it might be helpful to look at the Factsheet on ***Fatigue***.

What if I've tried all of these ideas and my child's sleep is still disturbed?

If sleeping problems continue, we would recommend a visit to your GP to talk through your concerns and to get specialist help and advice.

In addition, if your child has nightmares which relate back to a traumatic injury/event or the procedures surrounding this, they may have Post-Traumatic Stress Disorder (PTSD) and again professional help might be needed via a referral from your GP.

Pain may also be a factor in understanding your child's disturbed sleep and we would recommend a visit to your GP if your child is experiencing and / or complaining of pain.

Disturbed sleep can feel debilitating and overwhelming and so it is important that any sleeping problems are dealt with, not only for your child, but also for the whole family. No one can function at their best if they are tired.

Clincher, D. M., Bogner, J., Mysiw, W.J., Fugate, L., and Corrigan, J. (1998) Defining sleep disturbance after brain injury 1. *American Journal of Physical Medicine & Rehabilitation*, **77**, (4), pp. 291-295.

Dorris, L., Scott, N., Zuberi, S., Gibson, N., & Espie, C. (2008) Sleep problems in children with neurological disorders. *Developmental Neurorehabilitation*, 2008, **11**(2): 95-114.

Milroy, G., Dorris, L., & McMillan, T.M. (2008) Sleep Disturbances following Mild Traumatic Brain Injury in Childhood. *Journal of Pediatric Psychology* 33(3) pp. 242-247.

Tham S .W., Palermo, T. M., Vavilala, M. S., Wang, J., Jaffe, K. M., Koepsell, T. D., Dorsch, A/, Temkin, N., Durbin, D., Rivara, F. P. (2012). The longitudinal course, risk factors, and impact of sleep disturbances in children with traumatic brain injury. *Journal of Neurotrauma*, 29(1): 154-161.

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