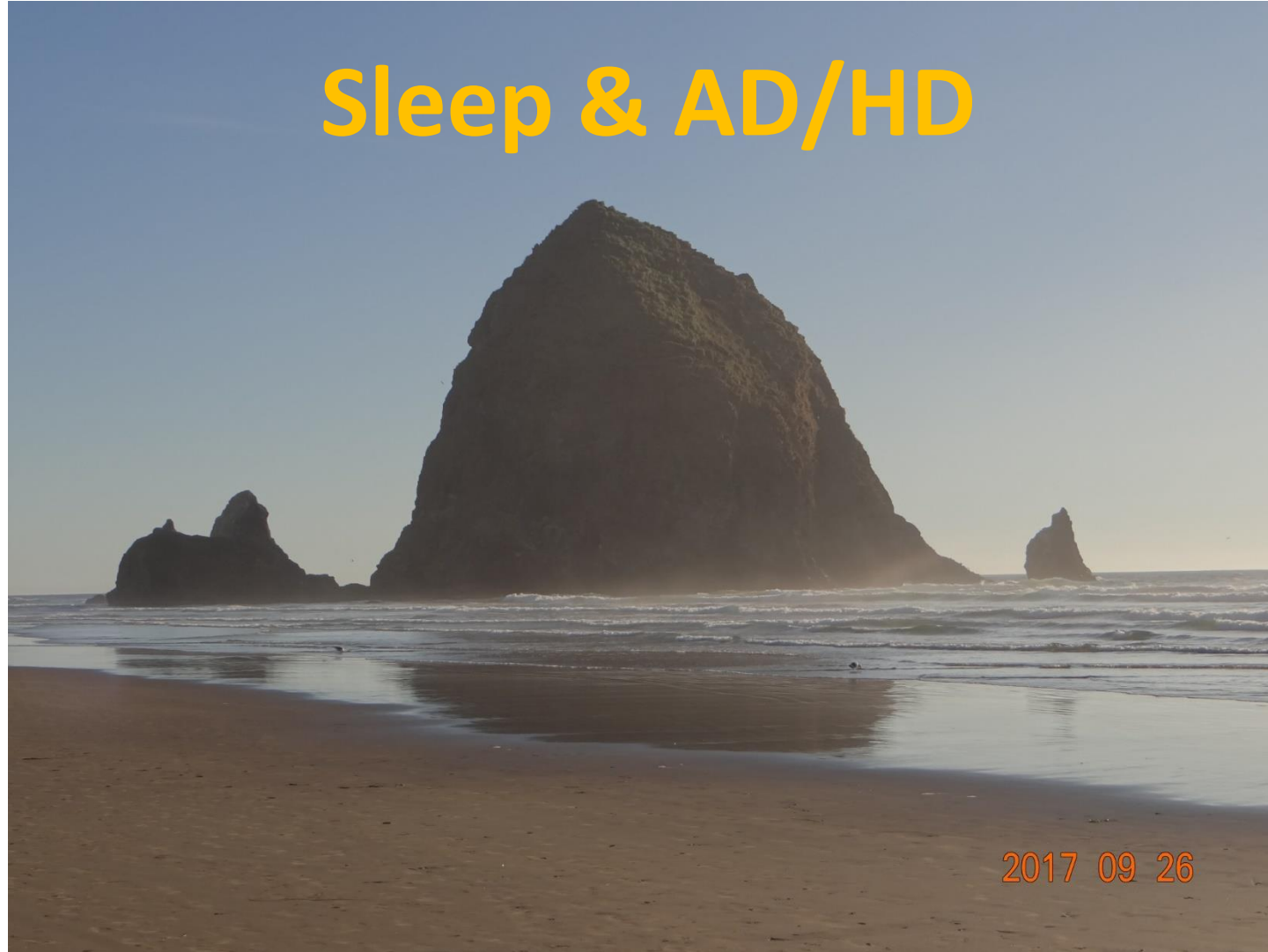


Sleep & AD/HD



AD/HD & Sleep

❖ Children with AD/HD:

- Up to 39% sleep walk
- 56% have trouble going to sleep
- Have fewer sleep hours than non-AD/HD children
- Have more movement during sleep
- Have more periods of sleepiness during the day

- Stimulant medications can lengthen sleep onset
- Sleep problems may exacerbate academic/work problems, but if academic/work problems not caused by sleep problem, better sleep may not translate to fewer waking problems.

Barkley, R.A. (2012). ADHD: Cutting Edge Understanding and Management. Seminar sponsored by J&K Seminars, L.L.C., 1861 Wickersham Lane, Lancaster, PA 17603-2327, p.1.

Craig, S.G., et al. (January 16, 2017). The Functional Impact of Sleep Disorders in Children With ADHD. Journal of Attention Disorders. DOI: [10.1177/1087054716685840](https://doi.org/10.1177/1087054716685840).

AD/HD & Sleep

“These problems could be reduced to three general factors: (1) dyssomnias (bedtime resistance, sleep onset problems, or difficulty arising), (2) sleep-related involuntary movements (teeth grinding, sleeptalking, restless sleep, etc.), and (3) parasomnias (sleepwalking, night wakings, sleep terrors). Dyssomnias were primarily related to comorbid ODD or treatment with stimulant medication, while parasomnias were not significantly different from the control group. However, involuntary movements were significantly elevated in children with the Combined Type of ADHD.”

**Barkley, R.A. (January 25, 2013). ADHD: Nature, Course, Outcomes, and Comorbidity. ContinuingEdCourses.Net. From website:
<http://www.continuingedcourses.net/active/courses/course003.php>.**

Sleep & AD/HD

- **Depriving children of sleep significantly reduces their performance on math tasks, and their ability to control these emotions.**
- **Such children are more apt to have comorbid AD/HD and/or depression.**

Caprener, S. (October, 2001). How Does the Brain Catch Up? Monitor On Psychology, 32 (9), p. 46.

Sleeping EEG studies have shown increase emotional memory bias in children without AD/HD when compared children with AD/HD. The later group appears to be significantly worse at consolidating emotional memories and this appears to explain their difficulties with emotional control somewhat.

Prehn-Kristensen, et al. (2013) Sleep Promotes Consolidation of Emotional Memory in Healthy Children but Not in Children with Attention-Deficit Hyperactivity Disorder. PLoS ONE, 8(5): e65098. doi:10.1371/journal.pone.0065098

Sleep, Anxiety, and Children

- **Children 6 to 13 years old need between 9 and 11 hours sleep a night.**
- **Glowing screens and caffeine can cause bedtime resistance, difficulty going to sleep, nightmares, and fewer sleep hours.**
- **Less sleep can cause significant mood swings.**
- **Tips for better sleep in this age range:**
 - **No Caffeine**
 - **No glowing screens in bedroom**
 - **Teach sleep hygiene**
 - **Regular and consistent sleep schedule**
 - **Keep room at bedtime cool, dark and quiet**

(Author) (No Date). Children and Sleep. National Sleep Foundation: Arlington, VA. From website: <https://sleepfoundation.org/sleep-topics/children-and-sleep>.

Sleep, Obesity & AD/HD

Too little sleep can lead to glucose metabolism changes, a bigger appetite, and a decrease calories burned. Too little sleep is a risk factor in obesity and diabetes.

Knutson, K.L. et al. (June, 2007). The Metabolic Consequences of Sleep Deprivation. Sleep Medicine Review. 11(3), 163-176. DOI: [10.1016/j.smrv.2007.01.002](https://doi.org/10.1016/j.smrv.2007.01.002).

“The recent generation of children with ADHD is 1.5 times more likely to be overweight, or obese...”

Barkley, R.A. (2015). Health Problems and Related Impairments in Children and Adolescents with ADHD. In R.A. Barkley (Ed.), Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis & Treatment. New York, NY: Guilford, 298.

Dealing with Nightmares in Children

- Listen to & reassure child
- Do fun things in the dark
- Teach coping skills/how to be brave
- Nightlight
- “Secure” the room
- Relaxation training
- No scary TV/Movies
- Discuss child’s fears and coping during the day
- Set limits...Don’t reinforce the wrong behavior
- Have them sleep in their own bed
- Check on them predictably
- Token economy.

Mindell, J. (June 2015). Children and Bedtime Fears and Nightmares. National Sleep Foundation: Arlington, VA. From website: <https://sleepfoundation.org/ask-the-expert/children-and-bedtime-fears-and-nightmares>.

Exhaustion, Anxiety, and AD/HD

Roffman wrote, “One final ongoing issue that is worthy of mention for many with LD/ADHD is the problem of fatigue. The extra effort required to cope with the continued social and academic demands of schooling can be chronically exhausting.” (p. 217)

Roffman, A.J. (2000). Meeting The Challenge of Learning Disabilities In Adulthood. Baltimore, MD: Brookes.

Roffman wrote, “Adults with LD/ADHD often experience pressure as they work to cope with their symptoms. Anxiety develops out of such day-to-day occurrences as the loss of yet another set of keys...” (p. 49)

Roffman, A.J. (2000). Meeting The Challenge of Learning Disabilities In Adulthood. Baltimore, MD: Brookes.

Sleep Extension & AD/HD

A recent pilot study suggested that sleep extension in children with AD/HD their improved inhibitory control by 13% compared to their non-impaired peers 10%.

Cemone-Caira, A. et al. (May 29, 2019). Effects of Sleep Extension on Inhibitory Control in Children With ADHD: A Pilot Study. Journal of Attention Disorders. DOI: 10.1177/1087054719851575.

Sleep and Memory

- “...sleep allows us to process and retain new memories and skills.” (p. 58)
- Deprive sleep/block training improvement in skill
- “Evidence for sleep’s effect on declarative memory is much weaker than its effect on procedural memory.” (p. 59)
- Good sleep creates better procedural memory.

Stickgold, R. (2005). Sleep-Dependent Memory Consolidation. Nature, 437 (7063), pp. 1272-1278.

Winerman, L. (January, 2006). Let’s Sleep On It. Monitor On Psychology, 37 (1), pp. 58-60.

Nguyem, N.D. et al. (July 1, 2013). Overnight Sleep Enhances Hippocampus-Dependent Aspects of Spatial Memory Sleep. 36(7), 1051-1057. DOI: <https://doi.org/10.5665/sleep.2808>.

Schonauer, M. (January 2014). Strengthening Procedural Memories by Reactivation in Sleep. Journal of Cognitive Neuroscience, 26(1), 143-153. DOI: 10.1162/jocn_a_0047.