



[Pediatrics](#). 2006 Apr;117(4):e769-78. [Links](#)

Sleep-disordered breathing, behavior, and cognition in children before and after adenotonsillectomy.

[Chervin RD](#), [Ruzicka DL](#), [Giordani BJ](#), [Weatherly RA](#), [Dillon JE](#), [Hodges EK](#), [Marcus CL](#), [Guire KE](#).

Sleep Disorders Center, Department of Neurology, University of Michigan, Ann Arbor, Michigan, USA. chervin@umich.edu

OBJECTIVES: Most children with sleep-disordered breathing (SDB) have mild-to-moderate forms, for which neurobehavioral complications are believed to be the most important adverse outcomes. To improve understanding of this morbidity, its long-term response to adenotonsillectomy, and its relationship to polysomnographic measures, we studied a series of children before and after clinically indicated adenotonsillectomy or unrelated surgical care. **METHODS:** We recorded sleep and assessed behavioral, cognitive, and psychiatric morbidity in 105 children 5.0 to 12.9 years old: 78 were scheduled for clinically indicated adenotonsillectomy, usually for suspected SDB, and 27 for unrelated surgical care. One year later, we repeated all assessments in 100 of these children. **RESULTS:** Subjects who had an adenotonsillectomy, in comparison to controls, were more hyperactive on well-validated parent rating scales, inattentive on cognitive testing, sleepy on the Multiple Sleep Latency Test, and likely to have attention-deficit/hyperactivity disorder (as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition) as judged by a child psychiatrist. In contrast, 1 year later, the 2 groups showed no significant differences in the same measures. Subjects who had an adenotonsillectomy had improved substantially in all measures, and control subjects improved in none. However, polysomnographic assessment of baseline SDB and its subsequent amelioration did not clearly predict either baseline neurobehavioral morbidity or improvement in any area other than sleepiness. **CONCLUSIONS:** Children scheduled for adenotonsillectomy often have mild-to-moderate SDB and significant neurobehavioral morbidity, including hyperactivity, inattention, attention-deficit/hyperactivity disorder, and excessive daytime sleepiness, all of which tend to improve by 1 year after surgery. However, the lack of better correspondence between SDB measures and neurobehavioral outcomes suggests the need for better measures or improved understanding of underlying causal mechanisms.

PMID: 16585288 [PubMed - indexed for MEDLINE]