

## **Removing tonsils linked to cure for attention deficit disorder**

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Can a tonsillectomy cure a child of *Attention Deficit Hyperactivity Disorder*?

In some cases, yes, it can, a new study suggests. The reason is simple: Children who have enlarged tonsils removed tend to sleep much more restfully, and that makes them calmer when they are awake.

The new research provides tantalizing evidence backing the scientific theory that there is a link between ADHD and sleep patterns.

“These findings support the idea that sleep-disordered breathing is actually helping to cause behavioural problems in children,” said Ronald Chervin, director of the University of Michigan Sleep Disorders Center in Ann Arbor, Mich., and principal author of the new study.

Children who snore or suffer from breathing interruptions, called apneas, have long been observed to be more hyperactive, the researcher noted. Earlier research showed that children who snore are four times as likely to have ADHD as non-snorers.

The belief is that the interruptions in breathing during sleep can cause the brain to “wake up” when it should be resting, and the sleep-deprived brain compensates with hyperactivity during waking hours.

One way to break that pattern may be removal of the tonsils – because enlarged tonsils are one of the principal causes of snoring and gasping for air that characterizes sleep apnea. (There are, however, causes other than enlarged tonsils for nighttime breathing problems, including obesity, allergies, acid reflux and structural abnormalities of the head and neck).

“If you have a child who has difficulties with attention deficit, hyperactivity, or daytime sleepiness, there may be something that can be done about it if the child proves to have a sleep disorder,” Dr. Chervin said.

He cautioned, however, that tonsillectomy is not a miracle cure for ADHD: About one-quarter of children with ADHD might benefit from treatment for sleep disorders – but that is still substantial for a condition that affects as many as one in 12 children.

The study, published in the medical journal *Pediatrics*, involved 105 children from the ages of 5 to 13. Of the total, 78 had their tonsils removed. At the outset, the children in the tonsillectomy group had far more behavioural and sleep problems but, after surgery, the groups were virtually indistinguishable.

One of the most striking findings was that, among the 22 children diagnosed with ADHD, 11 no longer had ADHD a year after their tonsillectomy.

At the same time, however, two children were newly diagnosed with ADHD after they had their tonsils removed. Dr. Chervin said that supports the notion that the damage from sleep-disordered breathing occurs in the early years, and the brain can rewire itself to adjust for a lack of sleep.

In a set of guidelines issued in 2002, the American Academy of Pediatrics said all routine checkups of children should include probing questions about snoring. The group said snoring and sleep apnea needed to be taken more seriously because they can have serious health implications, including high blood pressure, bed-wetting, stunted growth and chronic tiredness that often translates into hyperactivity or learning problems. In the most extreme cases, sleep apnea can lead to mental retardation or heart failure.

An estimated 50,000 children in Canada may suffer from sleep apnea. In adults, sleep apnea greatly increases the risk of heart attack and stroke.

Tonsillectomy was, at one time, a routine childhood surgical procedure but research showed that most operations were unnecessary. In recent years, however, the procedure has made a comeback, principally as a treatment for sleep apnea.