

## Doctors warn of snoring as signal of obstructive sleep apnea

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In these illustrations, 6-year-old Declan Greicius and his mother serve as models to demonstrate the steps a child goes through to prepare for a sleep study at the Pediatric Sleep Service affiliated with Packard Children's. At left, Jerry O'Connor, a technician, explains how the equipment monitors breathing in an overnight session.

(PhysOrg.com) -- Snoring is more than just a funny noise. For many children, that rumbling is a sign of obstructive sleep apnea, which occurs when extra tissue in the nose or throat blocks breathing and interrupts sleep.

"Sleep is when we regenerate our neurotransmitters and free brain space to create new memories," said Peter Koltai, MD, the division chief of pediatric otolaryngology at Lucile Packard Children's Hospital. "Interruption of sleep interferes with a vital physiological function."

That's why Koltai's team of ear, nose and throat specialists is working to



improve diagnosis and treatment for sleep apnea, which affects 1 to 2 percent of U.S. children. The disorder causes nighttime awakenings, restless sleeping and occasional bed-wetting, and daytime tiredness and problems paying attention.

To see if the airway is blocked, Koltai recommends kids who snore have a full physical and an evaluation for enlarged <u>tonsils</u> and adenoids. As part of this evaluation, Packard Children's offers overnight sleep studies to identify gaps in breathing.

When the sleep study shows apnea, Koltai's team can surgically remove enlarged tonsils and adenoids, a procedure that has improved dramatically in recent years. One option is to use a microdebrider to reduce the size of the tonsils, leaving a small amount of tonsil tissue that protects the throat muscles from post-surgical bleeding and infection.

"Tonsils are like belly buttons—they come as innies and outies," Koltai said. "This operation is ideal for the 'outies' in young children who have no medical problems except mild sleep apnea and very loud snoring."

In some cases, tonsillectomy and adenoidectomy doesn't fix the problem. For the 15 to 20 percent of patients who keep snoring, Packard's otolaryngologists use a flexible endoscope to see hard-to-examine parts of the nose and throat, a technique Koltai developed.

Thanks to flexible endoscopy, he was the first to show that some older children have noisy breathing due to laryngomalacia—a loosening of tissue in the voice-box previously thought to be confined to infants. Koltai's team repairs this defect with laser surgery. Other kids have poor throat muscle tone, which can be treated with continuous positive airway pressure, or CPAP, ventilation at night; the ventilator blows air into the back of the throat to hold it open. And some children have enlargement of the lingual tonsils, an often-ignored set of tonsils located "at the funky



part of your tongue way in the back," Koltai said.

To handle enlarged lingual tonsils, Koltai's team developed a new surgery that improves on old methods for removing the extra tissue. Older approaches faltered because the lingual tonsils are hard to see and tend to bleed heavily. The new operation uses an endoscope to visualize the lingual tonsils, and a surgical technique called coblation to "melt" the excess tissue away. The surgeon passes a small radiofrequency current through the tissue, vaporizing cells at low heat. Kids have little bleeding, experience minimal pain and recover quickly—they're usually eating a normal diet 24 hours later.

"We're really committed to improving treatments for this disease that has a substantial impact on the lives so many children," Koltai concluded.

## Provided by Stanford University Medical Center

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